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ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

OF THE

PROVINCE OF ALBERTA

FOR THE YEAR

1956

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PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

EDMONTON, ALBERTA
Printed by L. S. WALL, Printer to the Queen's Most Excellent Majesty
1957

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TABLE OF CONTENTS

	Page
Report of the Deputy Minister	5
Report of the Field Crops Branch	8
Report of the Live Stock Branch	47
Report of the Dairy Branch	69
Report of the Poultry Branch	83
Report of the Fur Farm Branch	90
Report of the Water Resources Branch	94
Report of the Agricultural Extension Service	111
Report of the Veterinary Service Branch	135
Report of the Schools of Agriculture	158
(a) Olds School of Agriculture	161
(b) Vermilion School of Agriculture	166
(c) Fairview School of Agriculture	171
(d) 4-H Clubs	177
Report of the Radio and Information Branch	186
Report of the Conservation and Utilization Committee	190
Report of the Surplus Wheat Board Monies Trust	193

To His Honour,
J. J. BOWLEN,
Lieutenant-Governor of the Province of Alberta.

Sir:

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1956.

I have the honour to be, Sir,

Your obedient servant,

L. C. HALMRAST,
Minister of Agriculture.

DEPARTMENT OF AGRICULTURE
1956

HON. L. C. HALMRAST, Minister of Agriculture
R. M. PUTNAM, Deputy Minister of Agriculture

HEADS OF BRANCHES

A. M. Wilson, Field Crops Commissioner
W. H. T. Mead, Live Stock Commissioner
D. H. McCallum, Dairy Commissioner
R. H. McMillan, Poultry Commissioner
R. W. Gillies, Fur Farm Supervisor
F. L. Grindley, Director of Water Resources
F. H. Newcombe, Director, Extension Service
E. E. Ballantyne, V.S., D.V.M., Director, Veterinary Services
J. E. Hawker, Superintendent, Schools of Agriculture and Home Economics
E. B. Swindlehurst, Supervisor, Radio and Information Branch
H. W. Gaebel, Secretary-Accountant
G. R. Sterling, Chairman, Conservation and Utilization Committee

Report of the Deputy Minister

(R. M. Putnam)

The Honourable L. C. Halmrast,
Minister of Agriculture.

Sir:

I have the honour to submit the Annual Report of the Alberta Department of Agriculture for the year ended December 31st, 1956.

The agricultural economy of the Province improved slightly during 1956. Although a good crop of grain was harvested, widespread frost damage reduced the grades of all cereals in most areas. New records were established in the number of cattle marketed for slaughter. Total marketings of hogs were slightly below 1955. Dairy production, expressed in milk equivalent, was fractionally below the previous year, while the quantity of eggs and poultry meat produced in the Province showed a slight increase. Deliveries of grain from farms from January 1st to December 31st, 1956, amounted to 175,436,000 bushels compared to 127,322,000 bushels in 1955.

The Federal Government continued its policy, initiated in 1955, under which a farmer could borrow up to $1,500.00 from his bank on the security of his stored wheat.

An interesting development occurred in 1956. A Hail Suppression Plan was developed, and a group of farmers in the area between Didsbury and Three Hills entered into a arrangement with the Water Resources Development Corporation, of Denver, Colorado, under which the latter agreed to suppress hail in the target area. Approximately 200,000 acres were involved in this plan and while no definite results were demonstrated, some residents of the area believe that the incidence of hail was reduced. It is anticipated that the plan will be renewed and the area extended in 1957.

To implement the provisions of The Land and Forest Utilization Act, passed at the Special Session of the Legislature in 1955, a Conservation and Utilization Committee was appointed on January 1st, 1956. This Committee consists of the following members:

Gordon R. Sterling (Chairman)	Department of Agriculture
A. M. Wilson	Department of Agriculture
F. L. Grindley	Department of Agriculture
Dr. V. A. Wood	Department of Lands and Forests
E. S. Huestis	Department of Lands and Forests
A. W. Morrison	Department of Municipal Affairs
J. G. MacGregor	Department of Industries and Labour
Dr. J. D. Newton	Research Council of Alberta

During the year the Apiculture Branch was incorporated into the Field Crops Branch and the Supervisor of Apiary Inspection was promoted to a new position, Supervisor of Apiculture. This consolidation was made for administrative purposes and to effect greater benefit to producers of forage crops and beekeepers.

The staff of the Department increased slightly during the year. On December 31st the staff consisted of 393 employees, classified as 190 technical and 203 non-technical.

A number of staff changes occurred, among which were the following:

Promotions:

R. A. Simmons, appointed Assistant Colonization Manager, S.M.R.D.
H. V. Moseson, appointed Extension Clothing Specialist
G. R. Sterling, appointed Chairman of the Land and Forest Utilization Committee
J. E. Hawker, appointed Superintendent, Schools of Agriculture and Home Economics
P. Jamieson, appointed Principal, School of Agriculture and Home Economics, Fairview
C. L. Usher, appointed Supervisor, 4-H Clubs
R. H. Cooper, appointed Assistant Supervisor, 4-H Clubs
S. S. Graham, appointed Assistant Director of Extension
H. B. Jeffery, appointed District Agriculturist at Mayerthorpe
L. W. Rasmusson, appointed Supervisor of District Agriculturists
C. C. Robinson, appointed District Agriculturist at Barrhead
J. W. Edmunds, appointed Supervisor of Apiculture
R. E. Bailey, appointed Chief Engineer, Water Resources Branch
J. L. Reid, appointed Supervisor of Hydroelectric Development, Water Resources Branch

Retirements:

W. K. Ross, Farm Manager, School of Agriculture and Home Economics, Olds
N. M. Sutherland, Chief Engineer, Water Resources Branch

Resignations:

Mrs. M. E. Acheson, Instructress, School of Agriculture and Home Economics, Vermilion
M. A. Baughn, District Home Economist, Edmonton
C. L. Belanger, Instructor, School of Agriculture and Home Economics, Olds
G. W. Carter, Instructor, School of Agriculture and Home Economics, Olds
M. Coady, Instructress, School of Agriculture and Home Economics, Olds
J. Flaherty, Instructor, School of Agriculture and Home Economics, Vermilion
G. A. Gillander, Instructress, School of Agriculture and Home Economics, Fairview
Mrs. J. Gratz, Instructress, School of Agriculture and Home Economics, Fairview
R. M. Gratz, Instructor, School of Agriculture and Home Economics, Fairview
Margaret Jackson, Dairy Laboratory Technician
A. R. LeBourneau, District Home Economist, Calgary
M. E. MacFarlane, Instructress, School of Agriculture and Home Economics, Olds
G. C. Melnyk, District Home Economist, Edmonton
M. H. Murray, Instructor, School of Agriculture and Home Economics, Olds
Mrs. M. A. Nielsen, District Home Economist, Westlock
P. J. Seldon, District Home Economist, Claresholm
H. M. E. H. Smith, Instructress, School of Agriculture and Home Economics, Fairview
Mrs. M. E. Spring, District Home Economist, Westlock

Transfers:

E. M. Crowther, Extension Home Designer to the Department of Public Works
F. C. Jorgenson, Instructor, School of Agriculture and Home Economics at Olds to Department of Education

It is with regret that I must report the untimely deaths of Mr. G. S. Black, Supervisor of Junior Activities, in January of this year, and Mr. W. G. leMaistre, Provincial Apiarist, who passed away in June.

Details of the many programs and policies which the Department of Agriculture pursued during the year 1956 will be found in the respective Branch reports in the following pages.

I wish to express my sincere appreciation to all members of the staff for their loyalty and service during the year. Without their assistance the policies of the Department could not be carried on. It is also my wish to express appreciation to officials of the Canada Department of Agriculture, the University of Alberta, the Alberta Research Council, Municipal Councils and all other organizations and individuals who have in any manner assisted this Department in carrying out its manifold duties.

Respectfully submitted,

R. M. PUTNAM,
Deputy Minister.

Report of the Field Crops Branch

A. M. WILSON, Field Crops Commissioner

R. L. Pharis, Supervisor of Crop Improvement
G. R. Sterling, Supervisor of Soil Conservation and Weed Control
W. Lobay, Supervisor of Crop Protection
P. D. McCalla, Supervisor of Horticulture
P. D. Hargrave, Superintendent, Horticultural Station, Brooks
J. W. Edmunds, Supervisor of Apiculture

REPORT OF THE FIELD CROPS COMMISSIONER

A. M. Wilson

In spite of dry weather in May and early June the out-turn of grain crops was considerably above average. The wheat crop grown on the lowest acreage since 1943 yielded 8.3 bushels per acre higher than the average long-term records. Three hundred thousand more acres of oats were grown than in 1955 and yields from this crop exceeded the long-term average by 13.8 bushels. The barley area remained fairly constant but here also the out-turn exceeded the average long-term production by 7.6 bushels per acre.

Unmarketable spring wheat encouraged a considerable shift in acreage to Durum wheat and flax. Each of these crops exceeded one-half million acres. The Durum market was open in 1955 and consequently farmers in southern Alberta readily changed at least part of their spring wheat acreage to Durum. So too in the case of flax. In spite of record flax production over western Canada in 1955 markets remained attractive and Alberta acreages were more than doubled for the current year.

Canadian Wheat Board quota deliveries remained in affect on wheat, oats and barley, and in addition similar marketing regulations were applied to Durum wheat and flax. These latter crops have thus far moved more readily and indications are evident that even larger acreages will be planted in 1957.

The first cutting of alfalfa was light but rains in the latter part of June and in July and August produced a final crop, although smaller than average yet considerably more than was expected early in the season. The feeding season of the 1955-56 winter was long and continuous. Many farmers and livestock men were short of feed, hay prices were 10 to 15 dollars per ton higher than in recent years. Straw was even scarcer than hay because early snows prevented normal baling. With this experience all available hay was put up and exceptionally large quantities of straw were piled and baled.

Grass and clover seed production was down considerably from a ten-year average due principally to winter-killing of clover crops and the lack of moisture for early grass growth. In protected locations clover crops survived the winter and produced seed yields ranging from 300 to 600 pounds per acre. The accumulation of native and honey bees on these smaller acreages combined with favorable weather conditions apparently contributed significantly to the abundant seed setting and the increased per acre yield. A desirable closer relationship between beekeepers and the clover seed growers was evident. Accordingly the office, of Provincial Apiarist, was for administrative purposes and for beneficial relationships with seed producers incorporated into the Field Crops Branch and the position renamed as Supervisor of Apiculture.

The quality of cereal crops and flax was seriously affected by frost which occurred on August 17th in the Manning, Keg River and Fort Vermilion districts and on September 4th in most other areas throughout the Province. Only the extreme south-eastern parts of the Province and an area west and north from Wetaskiwin to Sangudo escaped with minor damage. The late crops on the McKenzie Highway were seriously frozen and yields were reduced. The large flax acreage in this district which earlier had appeared promising gave little return above harvesting costs. In other parts of the Province most of the frost damage was due to lower grades. It was estimated that 67% of the wheat would grade below No. 4 and that only 10% of the oats would take a C.W. grade. Barley being further advanced escaped with least damage.

The following table compares 1956 crops with 1955 production.

Estimated Acreage, Yield and Production of Principal Crops for 1955 and 1956

Crop	'000 Acres		Bushels per Acre		Production '000 Bushels	
	1955	1956	1955	1956	1955	1956
All Spring Wheat	5,714	5,134	23.3	26.5	133,000	136,000
Durum Wheat	206	535	28.0	29.9	5,800	16,000
Oats	2,649	2,961	39.6	48.3	105,000	143,000
Barley	3,702	3,649	27.0	33.2	100,000	121,000
Fall Rye	133	86	21.1	14.0	2,800	1,200
Spring Rye	41	34	15.9	17.6	650	600
All Rye	174	120	19.8	15.0	3,450	1,800
Flaxseed	248	539	12.1	13.9	3,000	7,500
Mixed Grain	176	245	33.0	38.8	5,800	9,506
Peas, dry	10.4	10.5	23.0	21.0	242	220
Potatoes	15.9	16.4	154.0	190.0	2,450	3,116
			— tons —		— '000 tons —	
Tame Hay	1,422	1,415	1.69	1.38	2,400	1,950
Sugar Beets	36.4	36.2	11.8	12.6	430	456
Mustard Seed	78.2	137.0	633	964	49,463	132,000
			— pounds —		— '000 pounds —	
Rapeseed	8.0	32.0	565	925	4,520	29,600

Specialty Crops of Southern Alberta

Several major forward steps were noted in the processing industry. Facilities of Trans-Canada Freezers were used by all three processors to increase the percentage of the vegetable pack frozen. This was the first use of freezing by two of the companies. The new modern plant of Alberta Canning at Magrath enabled that company to increase its acreage almost 40% over 1955 plantings. The Broder Company increased its processing acreage by about 8% and put into operation a new vining station at Taber. They also expanded their use of mechanical corn harvesters and brought in the first mechanical snap bean harvester to the area. Operations of the Cornwall plant at Taber were down with a 15% reduction in acreage. Dyson's salting station at Taber also curtailed activities by about 30%.

Two new ventures in processing appeared this year. A freezer storage plant in Taber added a cob corn packaging line to its operation. And in Brooks the former canning factory was remodelled and put in operation making potato chips. In Medicine Hat, one company precooling corn for the green trade stepped up its operations considerably. There is an increasing realization among growers that more and better pre-marketing processing facilities must be developed for the fresh vegetable trade.

Contract canning crops occupied 9,100 acres and yielded an average return of about $90.00 per acre. The figure of 1,400 acres of vegetables grown for the fresh market remains an estimate. An attempt to get actual acreage figures was very frustrating. However, it is more extensive than first thought to be, and the impression remains that it could be greatly expanded. Promotion and study of the Early Lethbridge tomato was implemented by the growing of 2,000 plants at the Brooks station and their distribution to interested growers at Brooks, Medicine Hat, Bow Island and Taber. In spite of very adverse conditions at planting time and the early frost (September 4th) seven of the eight growers were favorably impressed with the economic potential of this crop and experienced no difficulty in disposing of their produce.

A study, still in progress, was undertaken of data relating to vegetable carlot unloads in Alberta and the other western Provinces, with a view to assessing the present size of the market and the source of supply. Figures for 1955, the latest available, indicate that of the 30 or so kinds of produce which Alberta can readily grow, 3,535 carlots were unloaded in the major wholesale centres, Edmonton and Calgary. Of this volume, 20% or 723 cars were supplied from home sources, 13% or 441 cars came from nearby provinces and 67% or 2,371 carlots were imported. Assuming these figures to represent 80 to 85 percent of our wholesale vegetable trade, there would appear to be room for a sizeable home market for fresh well graded local produce if our local growers went after the "in season" trade in earnest.

Looked on as "specialty crops", southern Alberta has three which are well established. Sugar beets, occupied 36,200 acres in 1956, yielded in excess of 450,000 tons for an estimated income of over seven million dollars. Mustard was sown on approximately 137,000 acres, produced around 132 million pounds to provide an income to growers of about $4,000,000. The commercial and seed potato planting covered 5,200 acres, yielded about 23,500 tons and is expected to bring about $700,000 to growers. It must be mentioned here that potato growing is increasingly mechanized-45 growers (17%) with digger-combines now plant 63% of the acreage.

Other minor specialty crops are dry peas and beans. Dry peas for soup and garden or canning crop seed occupied almost 2,400 acres and yielded 800 to 1,200 pounds per acre. A small increase in dry beans saw about 1,200 acres planted. About 1,000 acres were harvested with an average yield of about 800 pounds per acre. No even reasonably accurate data are available on the other seed crops. Neither is a breakdown by individual crops yet available on harvested acreage or acre yields from the processing companies. During harvest indications pointed to lower yields than in 1955. The frost of September 4th ended the bean and cucumber harvests and reduced yield and quality in corn.

CROP IMPROVEMENT SERVICE

Crop Improvement Demonstration Policy

Five crop improvement projects made up the policy, which is designed to aid District Agriculturists in demonstrating the value of better crops and better farming practices.

Project A: Forage Seed Production

This project was used to introduce forage seed production in areas where this type of enterprise might become important.

Fifty-one applications were received from 17 District Agriculturists. 2,527 pounds of seed was used in this project.

Project B: Pasture Improvement

This project was continued to increase farmer interest in the need for better pastures.

Three hundred and thirty-six applications were received from farmers in 36 District Agriculturists' territories; 40,504 pounds of seed was used under this project.

In addition, fertilizer was supplied to 15 applicants who had established pasture under the project in previous years. The following quantities were used:

Ammonium Phosphate	5,480 lbs.
Ammonium Nitrate	80 lbs.

Project C: Balanced Farming

This project was set up to encourage farmers to adopt suitable crop rotations. Assistance by providing forage seed was given in the second year of the rotation, at a discount of 25% for 1/6 of the acreage up to a maximum of 25 acres. There were 45 applications from 12 District Agriculturists' areas; 11,094 pounds of forage seed was distributed.

Project D: Field Demonstrations—Crops and Fertilizers

This project was designed to demonstrate the value of different kinds and varieties of field crops, and, where advisable, the value of fertilizer on these crops. Seed and fertilizers were supplied direct to District Agriculturists without cost. Thirteen District Agriculturists used the project.

The following quantities of seed and fertilizer were distributed:

Total Forage Seed	954 lbs.
Ammonium Phosphate (11-48)	2,000 lbs.
Ammonium Phosphate (16-20)	1,520 lbs.
Ammonium Sulphate	1,200 lbs.
Ammonium Nitrate	560 lbs.
Complete	300 lbs.
Ammonium Phosphate (27-14-0)	100 lbs.
	6,634 lbs.

Project E: Crop Variety Demonstration Plots

This project was used by District Agriculturists to demonstrate the varietal differences in cereals and the growth habits of forage crops. Seed and fertilizer for 35 rod-row demonstrations were provided to 17 District Agriculturists.

Forage Crop Seed Production

Estimated yield of alfalfa, alsike and red clover is far below last year's production. Severe winter-killing caused an extensive reduction in the acreage of legume crops. The sweet clover seed estimate is slightly above the previous year but is below the average. Grass seed estimates are down considerably due principally to dry weather in May and early June.

With the exception of sweet clover the prices paid for forage seed in the fall of 1956 were higher than in previous years. The following figures give the estimated seed production of the most important forage crops in the years 1952-1956 inclusive:

	1952	1953	1954	1955	1956
	Thousand Pounds				
Alfafla	6,900	6,700	1,815	1,100	625
Sweet Clover	7,500	5,250	5,825	4,250	6,500
Red Clover	1,900	2,600	1,635	4,000	1,200
Alsike	7,500	9,000	7,000	7,000	3,500
Timothy	359	235	300	500	200
Crested Wheat	300	235	220	100	....
Brome	7,000	6,000	4,775	5,000	4,000
Creeping Red Fescue	2,121	5,500	9,100	8,500	4,500

Alberta Crop Improvement Association

This Association is primarily concerned with improvement in quality of commercial grain through the use of registered and certified cereal seed. As in preceding years, participating elevator companies and the Alberta Seed Growers' Co-op handled the distribution.

Bushels of registered and certified seed, marketed in this manner in 1956 as compared with prior years, were as follows:

	1952	1953	1954	1955	1956
Wheat	39,007	31,334	72,906	44,828	66,909
Oats	47,123	19,309	27,120	60,914	91,776
Barley	14,886	13,704	21,108	15,580	60,245
Flax	4,130	1,247	4,866	3,286	10,061

The Association was directed by a committee of representatives from the following organizations: North-West Line Elevators Association; the farmer-owned elevator companies; Plant Products Division, Canada Department of Agriculture; the Alberta Seed Growers' Co-operative; The Canadian Seed Growers' Association, Alberta Branch; the University of Alberta, and the Alberta Department of Agriculture.

Production of Registered Seed

Cereals and Flax

In the following table, a summary is given of estimated yields of cereals and flax, inspected for registration and certification:

	1951	1952	1953	1955	1956
	Estimated Yield (Thousand Bushels)				
Wheat	1,000	1,270	1,204	2,000	3,000
Oats	1,775	1,200	1,017	1,800	1,600
Barley	620	570	362	1,000	900
Flax	113	115	73	243	340

1954 estimates were not given due to extensive frost damage.

These figures indicate that production of registered seed and certified seed is far above the distribution of sacked and sealed seed. Some of this seed was sold in bulk in farm-to-farm transactions. No doubt a large quantity was marketed commercially or fed on the farm. Grain eligible for sealing as seed was below the total estimated production because of low quality due to heavy frost damage which occurred on September 4th.

Forage Seed

The table below is a summary of reported acreage of grass and legume crops inspected for registration.

	1955	1956
	Registered Acres	
Brome (Parkland)	10	10
Creeping Red Fescue	52	48
Crested Wheat Grass (Summit)	31	22
Timothy (Climax)	20	34
Alfalfa (Grimm)	30	65
(Ladak)	67	5
(Vernal)	9	9
Red Clover (Altaswede)	97	27
(La Salle)	604	87
Sweet Clover (Erector)	10	5

Distribution of Registered Forage Seed

The Field Crops Branch in cooperation with the Canadian Forage Seed Project distributed the following amounts of registered and foundation stock forage seed.

Registered Stock	
Summit Crested Wheat	2,565 lbs.
Olds Creeping Red Fescue	373 lbs.
Climax Timothy	685 lbs.
La Salle Red Clover	2,097 lbs.
Ladak Alfalfa	50 lbs.
Vernal Alfalfa	515 lbs.
Erector Sweet Clover	200 lbs.
Foundation Stock Seed	
Vernal Alfalfa	387 lbs.
Climax Timothy	50 lbs.
Rambler Alfalfa	30 lbs.
La Salle Red Clover	200 lbs.

In addition to the above the Department in cooperation with a Finnish Plant Breeding Station distributed 45 lbs. of Tammisto red clover. Seed produced from these plantings is to go back to Finland for test. If the seed is satisfactory a limited export trade may develop with Finland.

The Alberta Varietal Zonation Committee

This is an advisory committee to the Provincial Seed Board. Its purpose is to co-ordinate the findings of the various experimental agencies in the province with respect to grain varieties, and to recommend those best suited to the various soil climatic zones. The committee is composed of representatives from the following: Department of Plant Science, University of Alberta; Canada Experimental Farms, Science and Production Services; and the Provincial Field Crops Branch. The annual meeting of the Committee was held in December. The following changes in recommendations were made:

Husky barley was recommended in Zones 2D, 3B, 3C, and 4A. Wolfe barley was recommended for use in irrigated areas. Titan barley was taken off the recommended list and Vantage barley removed from the recommendations for Zone 3B, 3C and 4A. Larain oats replaced Beaver in Zone 4A and Marine flax was added to the recommendations for 4C.

The recommendations of the Committee were prepared for printing in leaflet and poster form by the Field Crops Branch.

Forage Crop Advisory Committee

This is an advisory committee to the Provincial Seed Board. The purpose of this committe is to co-ordinate the findings of experimental agencies in respect to forage crops. Leaflets and bulletins dealing with forage crops are prepared for the use of the farming public.

The Committee completed a leaflet describing recommended varieties of forage crops.

At the December annual meeting reports were given on honey bees for pollination and seed production. Recommendations on this subject will be prepared for release.

Seed Drill Surveys

Seed drill surveys have been conducted annually in Municipal districts from 1949 to 1956 to determine the purity and quality of seed being sown. Seed samples were taken by Field Supervisors, Weed Inspectors and District Agriculturists, direct from farmers' seed drills at seeding time. The following is a summary of seed grades obtained on the samples taken:

Year	No. of Districts	No. of Samples	No. 1 Seed	No. 2 Seed	No. 3 Seed	Rejected
*1928	Province Wide	1,225	13.3%	15.4%	22.3%	49.0%
1949	23	1,939	21.5%	10.0%	17.5%	51.0%
1950	12	835	32.0%	9.0%	19.0%	40.0%
1951	9	630	26.0%	17.0%	17.5%	39.5%
1952	10	702	28.3%	15.3%	15.2%	41.2%
1953	15	1,199	33.0%	12.0%	17.5%	37.5%
1954	19	1,540	31.5%	14.0%	17.0%	37.5%
1955	17	1,362	38.0%	11.0%	17.0%	34.0%
1956	23	1,680	40.0%	13.0%	16.5%	30.5%

*Carried out by Seeds Branch, Dominion Department of Agriculture.

The following is a summary of seed treatments of seed survey samples.

COMPARISON OF SEED TREATMENTS FOR 8-YEAR PERIOD

		Percentage Treatment			
Year	No. of Samples Reported	Formalin	Mercurials	Non-Mercurials	None
1949	926	44.6	44.5	....	10.9
1950	570	35.0	44.2	5.6	15.2
1951	601	36.6	45.8	2.0	15.6
1952	151	33.3	46.7	1.3	18.7
1953	862	21.7	59.1	8.1	11.1
1954	1,286	13.0	67.0	4.0	16.0
1955	1,117	15.0	56.0	11.0	18.0
1956	1,417	14.0	60.0	6.0	20.0

Foundation Stock Seed Allocation Committee

This Committee attempts to allocate the limited stocks of foundation seed to seed growers who will take the greatest advantage of it, and who are prepared to undertake production of elite seed. In this manner, registered stocks of the common varieties are maintained at high levels.

The Agricultural Relief Advances Act

The following amounts of seed were advances under this Act to necessitous farmers in the Silver Valley Land Clearing Project west of Spirit River.

Seed Wheat	220 bushels
Seed Oats	533 bushels
Seed Barley	408 bushels
Flax	50 bushels
	1,211 bushels

The Department has in store 28,165 bushels of seed oats as an emergency seed reserve.

Other Activities

Talks were given at fifteen meetings, attendance being approximately 800. Seven radio talks were given and twenty-five articles prepared for Agricultural Notes and assistance was given the editor of Agricultural Notes in the preparation of at least five other articles.

Judging of seed was done at the Junior Seed Fair in Calgary, and for twenty-two 4-H Grain Clubs at nine Achievement Days.

Two trips were made in connection with seed and feed relief in the Silver Valley area.

Three Newsletters were prepared for registered and certified seed growers.

In addition numerous enquiries regarding crops, varieties and crop production were answered personally and by letter.

International Seed Shows

For many years the International Shows have been recognized as the show windows for farm products. The Department has given assistance to Alberta exhibitors in the seed classes at the Royal Agricultural Winter Fair, Toronto, and the International Grain and Hay Show, Chicago. Exhibits were assembled and shipped to the Shows by the Field Crops Branch, with shipping costs both ways being paid by the Branch. The exhibits were supervised at the Show, and in 1956 special premiums were paid as follows: (All prize monies won at the International were duplicated and were increased by 50% at the Royal.) A special honorarium of $25.00 for each first prize won at the Royal in the classes of wheat; oats; barley; rye; flax; alfalfa; alsike; red clover; sweet clover; brome; red fescue; timothy and crested wheat; and russet (Netted Gem) seed potatoes; potatoes in the vegetable and cooking classes and 4-H Club exhibits, was paid. A similar honorarium was paid for each first prize at the International, in the classes of red clover; sweet clover; alsike clover; alfalfa; timothy; crested wheat; brome; creeping red fescue; wheat; oats; barley; rye and flax. Such honoraria were increased to $100.00 for championships won with exhibits of hard red spring wheat; oats and barley at both Shows.

The names of the 1956 winners are as follows:

Royal Agricultural Winter Fair—Toronto

World Championship:		
Wheat	Wm. Deurloo	Granum
Oats	John F. Boulton	Abee
Barley	R. W. Hummel	Milk River
Reserve Championship:		
Wheat	Viola Howard	Munson
First Prize:		
Wheat, Durum	Ralph L. Erdman	Barons
Alsike	Leroy Kvarnberg	Warburg
Sweet Clover	Geo. W. Jordan	Wembley
Brome Grass	James Pringle	Coronation
Oats, Jr.	A. E. Dubyk	Mundare
Barley, (6-rowed) Jr.	Norman Cowling	High River
Potatoes, 4-H	S. R. S. Wakaruk	Morecambe

In addition seven seconds, nine thirds and fifty-three other awards were won by Albertans.

International Grain and Hay Show—Chicago

Championship:		
Wheat	Jerry J. Leiske	Beiseker
Oats	Thos. Rhatigan	South Edmonton
Barley	F. J. Schulz	Coutts
Reserve Championship:		
Wheat	Ralph L. Erdman	Barons
First Prize:		
Sweet Clover	Geo. W. Jordan	Wembley
Alsike	Leroy Kvarnberg	Warburg
Brome Grass	James Pringle	Coronation

In addition six seconds, four thirds and twenty-six other awards were won by Albertans.

A list of all previous Alberta championship winners at World Seed Shows can be found in the Annual Report for 1955.

SOIL CONSERVATION AND WEED CONTROL

Soil Conservation and Weed Control

Weather conditions during 1956 were favorable for weed control. Summerfallows were well worked and the weather was good during the normal chemical spraying season.

Weed Survey

The following are the results of a survey conducted in forty-two (42) Municipal Districts, Improvement Districts and Counties served by Agricultural Service Boards. The degree of infestation of seven (7) persistent perennial and two (2) annual weeds are compared with 1955 infestations.

Chemical Weed Control

More acres were treated with selective herbicides for weed control during 1956 than in any previous year. The amount of MCP used, increased again during 1956, most of it being used to control weeds in oats, flax and legumes. Approximately 81.2% of all selective herbicides used were ester formulations of 2,4-D or MCP. About 97.1% of the acreage treated was by spray applications with ground equipment. Very little acreage was sprayed by aerial equipment.

The following figures show the acreages treated with selective herbicides during the last three years.

1954	2,981,000
1955	4,250,000
1956	4,360,000

A total of 30,838 pounds of TCA was used largely for Couch Grass control.

The Branch continued the distribution of soil sterilants, Sodium Chlorate, Polybor Chlorate and DB Granular, through Municipalities to farmers at cost. Most of these products were used for toadflax control. Total distribution of soil sterilants increased during 1956, although still not as high as in some previous years.

POUNDS OF SOIL STERILANTS DISTRIBUTED FOR THE LAST 5 YEARS

	1952	1953	1954	1955	1956
Sodium Chlorate	330,626	333,088	414,948	347,784	379,718
Polybor Chlorate	25,784	36,600	24,984	21,450	34,550
DB Granular					7,050
Total	356,410	369,688	439,932	369,234	421,318

The above figures do not include the sodium chlorate-borate mixtures, CMU and other soil sterilants which were used to control weeds around industrial establishments, oil well batteries, etc.

Weed Control Demonstrations

The Tartary Buckwheat control demonstrations at Royal Park and Stony Plain were continued. Several plots of Toadflax control placed during 1955 were checked. All of the Field Supervisors received samples of several soil sterilants, some of which are not as yet named but went out by code numbers, to apply on Toadflax.

Results cannot be read until next year. The Field Crops Branch weed sprayer was loaned to the Department of Highways for a three week period. They used it to spray roadsides in many parts of the province.

The Branch assisted District Agriculturists and Field Supervisors in establishing 145 weed control field demonstrations of various kinds. It is estimated that a total of 1,881 saw these demonstrations at field days, etc. held at the actual sites.

Roadside Seeding and Spraying

The Branch continued its policy of seeding Government highways for the Department of Highways,—Highways paying for the seed and Field Crops the cost of seeding the highways. A total of 431.5 miles were seeded using 24,395 pounds of forage seed.

The Branch encouraged Municipalities to seed down newly constructed roads. A total of 28,500 pounds of forage seed was supplied to Municipal Districts for this purpose. All the Municipalities and Counties with Service Boards seeded a total of 1,818 miles of roadside which required at least 54,540 lbs. of seed. In other words, local districts bought at least 26,040 lbs. of forage seed for roadside seeding purposes.

No roadside brush control demonstrations were placed during 1956 because most of the local districts now have good roadside sprayers of their own. Municipal Districts and Counties sprayed a total of 12,486 miles of roadsides for brush and/or weed control. They mowed a total of 12,018 miles of roadside for weed control and also to eliminate snow drifting.

Crown Lands

The Branch continued to supply 2,4-D for weed control on Crown Lands. Farmers affected by the weeds on the Crown Lands applied the chemical. A total of 46 (forty-six) gallons of 2,4-D were used for this purpose. The Branch made grass seed available for Crown Land accrued lakeshore areas. A total of 230 pounds was supplied under this policy.

Agricultural Service Boards

A total of 42 Agricultural Service Boards operated during 1956. Four new Boards were organized in 1956. These were in the Municipal Districts of Barrhead, Willow Creek, Wheatland and in the County of Thorhild, some of which did not start to operate until April. Two Field Supervisors resigned but were replaced almost immediately.

Service Boards hired a total of fifty-six (56) assistants who did weed work for a two (2) to three (3) month period during the summer. Two Boards, namely Red Deer and Foothills, employed a full-time assistant to the Supervisor.

Service Board reports showed a total of sixty-six (66) parcels of land put under supervision during 1956, making a total of 421 held under supervision during 1956. A total of 116 were released from supervision. Two parcels were placed under reclamation during 1956 and five released making a total of fifty-five (55) held under reclamation during 1956.

Field Supervisors and assistants issued 2,246 notices to Destroy Weeds which covered 43,959 acres. They issued notices prohibiting seeding to crops during 1957 on 30,250 acres.

Service Board Agreements

Each Municipal District or County with a Service Board received a maximum of $2,200.00 under the General Service Board Agreement. There was additional assistance for Bangs Control. In addition, several Municipal Districts, Counties and Improvement Districts had special Toadflax Control Agreements with maximum payments varying from $200.00 to $1,800.00. The special agreements were the same as in 1955, copy of which appeared on Page 25 of the 1955 Department of Agriculture Annual Report. The following Districts were assisted in the control of Toadflax by special agreement with the Department.

M.D. of Minburn No. 72
I.D. No. 132
County of Stettler No. 6
M.D. of Kneehill No. 48
M.D. of Red Deer No. 55
M.D. of Peace No. 135
M.D. of Vermilion River No. 71
M.D. of Camrose No. 63
M.D. of Lacombe No. 64
M.D. of Athabasca No. 103
M.D. of Wetaskiwin No. 74
M.D. of Foothills No. 31
M.D. of Flagstaff No. 62

Seed Cleaning Plants—F .F. Parkinson, Supervisor of Special Projects

In spite of low quotas on commercial grain which limited farm space for seed, snow bound roads and later road bans the seventeen Seed Cleaning Plants cleaned a total of 3,300,000 bushels. A more than normal quantity of commercial barley was rough cleaned at times that did not interfere with the cleaning of seed grain.

Seed grain inspections and seed drill surveys again showed that seed from the Plants was on the average superior to seed obtained by other methods. A high percentage of Plant cleaned seed was used locally. The following breakdown indicates the disposition of seed:

81.4% of all grain cleaned was seed grain.
98.6% of seed cleaned was planted locally (within Alberta).
1.4% of seed cleaned was exported outside of Alberta.
3.4% of seed cleaned was registered or certified
85.6% of registered or certified seed was planted locally.

All Plants treated seed grain for the control of seed borne diseases and wireworm control. Only treating materials, tested and found suitable by Science Service, Canada Department of Agriculture were used. Random samples of plant treated seed, compared favorably with tests made under laboratory conditions. All powders used have an oil added to minimize the dust problem. This is a protective measure for the Plant operator and the farmer.

At the Annual Conference of the Plant Operators and Directors held in July, a Provincial Board of Plant Directors was formed. This Board was incorporated under the registered title of Provincial Seed Cleaning Cooperatives Association Limited. The Board has obtained lower insurance rates on the Plants. Discounts in the price of seed treating materials were realized when combined orders were submitted rather than when each Plant ordered separately. The Association hopes to set up a more uniform accounting system so that reports will be more uniform than at present. The Board, through its Secretary, George Cramton of Strome, distributed useful information to Plant Managers and local Boards of Directors.

During the fall the eighteenth Plan was completed at Balzac. It started operation in early December. Severe weather stopped construction on the Plant at St. Paul.

At the end of the year organization and sale of shares was well advanced in four areas and several others are in the process of organizing.

In spite of the difficulty experienced in moving grain during the winter, all except three of the Plants paid operating and overhead expenses, and added to their reserve fund. In some cases, the reserve fund was sufficient to allow a reduction in service charges.

Most of the Plants had a heavy fall run. It has been a problem to get farmers to bring in seed for cleaning early in the season and distribute the work more uniformly over the operating season to avoid the rush in late spring. Some Plants charged lower rates in the off-season to encourage fall cleaning.

Field Staff

The Branch employed nineteen (19) Weed Inspectors to enforce the Noxious Weeds Act in Improvement Districts and four Weed Supervisors were employed during the summer months to assist Wed Inspectors in both Municipal and Improvement Districts. The few Municipalities without Agricultural Service Boards employed ten Weed Inspectors. The above Inspectors together with the men working in Districts with Boards made a total of 131 men working on weed control enforcement during 1956.

Extension Meetings, Field Days, etc.

The annual Agricultural Service Board Conference was held in Calgary during the latter part of March. Representatives from each Board attended the three day meeting. Regional meetings of Agricultural Service Board personnel were held during November and December at the following points: Vulcan, Olds, Sedgewick, Edmonton, Vegreville and Falher. All Board members attended one of these meetings.

The Supervisor of Soil Conservation and Weed Control attended fourteen Agricultural Service Board meetings; spoke at thirteen summer Field Days and seventeen winter Short Courses; attended and spoke at seventeen other public meetings; judged seven Junior Club Seed Fairs and accompanied fifteen district tours of weed control and soil conservation. The Western Weed Control Conference at Lethbridge and the North-Central Weed Control Conference at Chicago were attended to obtain the most complete information available on weed control methods and new chemicals.

Miscellaneous

The Supervisor of Soil Conservation and Weed Control was an alternate on the Committee set up by the Department of Lands and Forests to approve loans to farmers under the Homestead Lease

Loan Act. Several half days were spent working with the Committee. Two trips were made to the Wanham Project as a member of a Committee set up under the Department of Lands and Forests to assist the settlers on that project.

The Supervisor was appointed Chairman of the Land Utilization Committee which report appears elsewhere.

Soil Conservation

Wind erosion took its toll in spite of the fact that most of the soil located in the high wind area is protected by such farm practices that provide for trash cover, strip farming, etc. A survey of the Agriculture Service Boards indicates that 2,810 quarters had some wind damage during 1956.

The same survey showed 5,154 quarters damaged by water erosion. Most of the damage was either rill or sheet erosion and the soil demarkations were easily covered with cultivation machinery. This type of erosion caused more damage than many farmers realized.

Publicity, drawing farmers attention to the erosion problem and control methods continued throughout the year. District Agriculturists had 362 farmers in special conservation campaigns such as "Save the Soil" or "Farm and Home Improvement" organizations. A total of 129 meetings on conservation attended by 4,645 people were held.

Thirteen districts held gully filling demonstrations. The Branch assisted with some of these.

Projects 1 and 2, demonstrating Soil Conservation and Weed Control with forage crops were continued. Project 1 was designed to assist District Agriculturists to establish soil conservation demonstrations on farms. Fourteen District Agriculturists used this policy to establish demonstrations on seventy-three farms. A total of 8,896 pounds of forage seed and 240 pounds of fertilizers were distributed under this policy.

Project 2 designed to assist Municipalities in handling farms placed under supervision or reclamation by authority of the Agricultural Service Board Act, was continued. Five Districts took advantage of this policy for assistance on eighteen farms. A total of 4,491 pounds of forage seed was distributed.

Save the Soil Campaigns

Many District Agriculturists replaced "Save the Soil" Campaigns with "Farm and Home Improvement" Associations. "Save the Soil" certificates were issued to only fourteen farmers in two districts during 1956.

Fertilizers

The Supervisor continued as Secretary of the "Alberta Advisory Fertilizer Committee". The Anhydrous Ammonia trials established in the fall of 1955, were seeded by University of Alberta personnel in the spring of 1956 and the yield data reported to the Fertilizer Committee in the fall of 1956.

CROP PROTECTION AND CONTROL SERVICE

Crop Insects

Grasshoppers

The grasshopper infested area in southern Alberta had decreased from 2,500,000 acres in 1955 to 1,900,000 in 1956. Infestation was rated light throughout the whole area. There was a build-up of the serious pest species, the lesser migratory grasshopper, which had caused major concern in the past. The infested area extended from Milk River in the south, east of the Lethbridge-Coutts highway to Bow Island in the east, and then through Taber projecting north-west to Retlaw and Carmangay.

First hatching in southern Alberta occurred around the middle of May, but did not become general until June 15. Maximum populations in some cereal crops were up to 5 per sq. yard, and on roadsides as high as 20 per sq. yard, but due to good crop growth and other abundant vegetation, damage was generally negligible.

Light, localized infestations again appeared in the Peace River region, with only light damage reported. Heaviest infestations were noted in the Fort Vermilion region, attacking alfalfa stands. A grasshopper station was maintained at the Experimental Farm sub-station where Aldrin spray was available to farmers.

For the second year in succession, no baits were available under the grasshopper policy. Aldrin sprays were reduced in price, with such reduction passed on to the farmer. Materials for grasshopper control were stock-piled at Lethbridge, Edmonton, Youngstown, and in strategic points in the Peace River country.

The following table shows the extent of the control program in 1956 and gaves other pertinent information regarding the grasshopper campaign. Data for 1953-55 is given so comparisons can be made:

	1953	1954	1955	1956
Acres of land infested	500,000	830,000	2,500,000	1,900,000
Acres of crop land menanced	5,000	7,000	10,000	2,000
No. stations operated	10	16	16	14
Bu. poisoned bait spread	50	0	0	0
No. farms receiving bait	1	0	0	0
Estimated acres crop destroyed	100	150	200	100
Estimated lb. technical Aldrin used (spray)	65	2,060	875	200
Estimated lb. 2½% Aldrin dust used	50	500	100	0
Acres treated with Aldrin spray	600	15,000	7,000	3,000
Acres treated with Aldrin dust	8	60	16	0

The above figures indicate only the materials used under the provincial grasshopper policy.

The grasshopper forecast maps were printed again this year and supplied to all regions in the surveyed area. Good co-operation was obtained from elevator companies and Municipal offices. Printed information on grasshopper control was supplied to all District Agriculturists' offices. Provincial fieldmen on various duties with the Branch assisted with grasshopper control work from points at Fairview, Youngstown, Medicine Hat and Lethbridge.

Wheat Stem Sawfly

Sawfly populations have increased in the Foremost, New Dayton and Hilda-Schuler areas of the province. Parasitism of this insect has increased in the Lethbridge area over the past year.

At every opportunity through the press, radio and Agricultural Short Courses, this Branch has been advocating the use of sawfly-resistant crops in the infested area. Prior to 1953 Rescue wheat accounted for over 9% of the total wheat acreage in Alberta. Since the appearance of the variety Chinook, Rescue acreage has been decreasing, but is being taken over by the latter variety, which accounted for somewhat under 5% of the acreage this year. Other recommended practices to avoid losses were also advocated.

This year the wheat stem sawfly was found for the first time in the Peace River area of Alberta.

Cutworms

For the third succesive year no damage by the **pale western cutworm** has been observed or reported. A larval survey was made through areas of last infestation but no specimens were found. In most cases, May and the first half of June were marked by dry weather, therefore generally favorable for a slight increase in population next year.

In view of the serious infestations which occurred in 1955 with extensive damage to mustard, flax and cereals, a spring survey for the **army cutworm** was made. Very few larvae were found and these were about two weeks further developed than last year at the same time. Stations having insecticides on hand were maintained again this year, but no material was used, and damage was negilible.

Damage to gardens by the **red-backed cutworm** was reported from the wooded and parkland regions of the province. This cutworm has been found in sugar beets each season during the past three years. In localized fields damage has ranged from less than 10 to 75 per cent.

Since 1954 the **climbing cutworm** has been a recurrent pest of delphinium in the Lethbridge area. Householders reported that some stands were seriously infested.

Wireworms

Wireworms continued to take their toll of some gardens and cereal crops. Noticeable damage was observed in the Peace River country. Damage to crops in southern Alberta, however, has been very light this year. In parts, this is probably the result of the dry spring weather. In a few sugar-beet fields in the Turin area adults of one of the species were found clustered at open wounds on the tap roots of the plants. Stands were reduced by 10%, but it was felt that the click beetles were secondary agents, the main cause of the damage being high winds and crusted soil.

Much publicity was given by this Branch to the use of insecticide-fungicide seed dressings in cereal crops in areas where wireworms are a problem. All 18 muncipal seed cleaning plants are equipped with machinery to make the necessary seed dressings when required.

Sweet Clover Weevil

Infestations and damage by this pest were significantly increased in 1956. There was some serious damage to first year clover stands in the High River-Strathmore-Calgary areas and the Edmonton region. The weevil also appeared in the Peace River country for the first time. In areas where winter killing of the clover was suspected, investigation showed that the damage was actually due to the weevil. This Branch supplied insecticides to the infested areas. The application of Aldrin and Heptachlor gave favorable control.

Lygus Bug

Lygus bug damage to alfalfa stands was only slight this year in the Peace River region, except in the Fort Vermilion country where damage was significant. In southern Alberta only one infestation occurred in a field that was severely infested in 1955.

Aphids

Unlike 1955, aphids caused little damage to grain crops. Populations of all aphids commonly found on cereals were low. Whereas 41% of all barley crops were infested last year, there was only one report of damage by the corn leaf aphid.

Malathion was available at a number of points to protect crops against aphids. Some difficulties were encountered with this insecticide turning into jelled condition.

Stored Grain Insects

For the fourth year in succession the Rusty Grain Beetle and other destructive grain pests continued to be a problem in stored grain at isolated points, mainly in southern Alberta. A severe infestation of the Rusty Grain Beetle was encountered at Vulcan. Infestation throughout northern Alberta, where present, were mainly confined to mites and fungus beetles. Two cases of the granary weevil were found in southern Alberta in 1955, but no new cases were found in 1956.

This Branch conducted two demonstrations on fumigation methods for controlling insects in stored grain. Others were conducted by District Agriculturists in areas where problems occurred. Approved gas masks and canisters were again provided to the farmers through the District Agriculturists' offices. This service has been given to the farmers for the last three years.

There were five releases prepared and circulated on the stored grain insect problems and how to cope with them.

Insects of Conifers

In 1956 there was a continuation of last season's damage to conifers by the yellow-headed spruce sawfly, spruce spider mite and spruce aphids. Severe damage to shetlerbelts was caused in areas at Edmonton, Vermilion, Lacombe, Calgary, Provost, Coronation and other north-central points.

This Branch supplied Aldrin and Malathion at cost to various centres where there was a spraying program. The Department sprayer was used in a number of areas to demonstrate and assist spraying campaigns.

Alfalfa Weevil

This pest, which was first located in Alberta in 1954, has become established throughout that part of southern Alberta bounded by the 49th parallel on the south and the St. Mary, Oldman, and South Saskatchewan rivers on the north. The highest density recorded to date was swept from a hay field at Manyberries Range Station where 463 larvae and 13 adults were taken in 500 sweeps.

The parasite **Bathoplectes curculionis** emerged from at least 50% of all the larvae reared through to maturity.

Spraying with proper insecticides can control this pest effectively, but on no fields have the infestations been heavy enough to have warranted taking control measures.

European Corn Borer

This insect was found for the first time in Alberta on September 3, 1956, on one field in the immediate vicinity of Medicine Hat. Montana and Saskatchewan reported this insect a few years ago.

Because of the very light infestation which was confined to one field, this Branch organized a program with the hope of eliminating this pest. Only 122 acres of sweet corn were grown in the Medicine Hat area and all growers were directed to destroy the corn stubble and remove such alternate host plants as peppers, and some weeds, as well as take other prescribed precautions. The city of Medicine Hat householders also co-operated. This work will be continued in the early spring of 1957.

Special Crop Insects

Colorado potato beetle was reported from household gardens, but few reports of damage were received from commercial growers. Most of the commercial potato growers now have the information and equipment to handle a beetle problem should one arise.

Root maggots of cruciferae plants and onions again caused moderate damage to gardens. A new publication "Control of Garden Pests in Alberta" was prepared, printed and distributed, where among other insects detailed information is supplied on the control of maggots. Over 4,500 copies have been mailed out from this office.

Sugar-beet root maggot caused serious damage to beets in the light sandy soil area at Taber and Cranford. Approximately 3,000 acres of beets were treated for root maggots at the time of seeding.

Sugar-beet root aphid was present in most of southern Alberta. Populations were higher this year than last year.

Stink bug was found on a number of potato fields in the Edmonton area, with slight damage only to the crop.

Crop Diseases

Diseases of Cereal Crops

The usual amount of damage was caused by **root rots** and **smuts** of cereals. Throughout central and northern Alberta these were found on 82% of the fields examined. **Take-all** was quite severe in the Fort Vermilion area and in the black soil zone. **Stem and leaf rusts** caused little damage in southern Alberta except in fields of Lemhi soft white wheat and in a few late sown fields of bread wheat. **Stem rust** in the Strathmore-Drumheller-Stettler area ranged from moderate to severe on Red Bobs wheat where too many farmers are still growing it. **Streak mosaic** was not observed in fields of wheat because of the severe winter damage in winter wheat which largely prevented the overwintering of the mite vector and the virus.

Halo blight was found on 85% of the oat fields examined. There was also a high percentage of fields showing covered smut with infections in some cases running as high as 25% of the plants.

This indicates that farmers should be paying more attention to adequate seed treatment. **Blast** (a physiological condition) was found on 75% of the fields examined.

Leaf diseases of barley, especially **net blotch** and **scald** were unusually prevalent throughout the province. These diseases have been increasing in the last few years. **Scald** was particularly serious in the black soil zone and the Peace River area as barley becomes a dominant crop. Second and third year crops on the same land were particularly hard hit. **Root rot, false stripe, covered** and **loose smut** took heavier tolls of the yield of barley than in 1955.

Ergot was light on wheat, oats and barley crops, but was noticeable on rye crops. Seven out of eight fields examined showed significant traces of this disease.

Diseases of Forage Crops

Clover crops winter-killed severely, probably due to low temperature organisms and a sudden drop to low temperature after warm fall weather. **Northern Anthracnose** of red clover and **Blackstem** of alfalfa were much less severe than they have been over the last few seasons.

In southern Alberta **snow mold** was more prevalent than usual and caused damage in several fields of alfalfa in the Brooks, Lethbridge and Stavely areas. **Bacterial wilt** and **crown bud rot** were again found in all irrigated stands of alfalfa. Little or no damage was caused by the leaf and stem diseases of legumes and grasses.

Diseases of Other Crops

Flax rust was particulary noticeable in northern areas where consecutive crops of Redwing were grown. The rust resistant variety was unaffected.

Black root of sugar beets was found before thinning in all fields examined, but damage occurred in only one field. Several fields of canning peas were severely damaged by **root rot.** Mustard crops were generally free of disease.

Diseases of Potatoes

(a) General

All the potato fields examined showed varying degrees of the common diseases such as **black-leg, rhizoctonia, leaf roll** and **wilts.** A few fields showed **late blight** but due to dry weather following the appearance of this disease, it did not spread. There was a widespread infection of **early blight** throughout the province this year, but it appeared somewhat late resulting in very little loss of yield. Most of the potato crop went into storage in good condition.

Meetings were held with growers regarding potato production and disease control in the Brooks, Vauxhall, Taber and Lethbridge areas with total attendance of 127 growers present. Grading schools were held in conjunction with these meetings. A Field Day was held in August in the Taber district to further acquaint the growers with potato diseases and to observe production methods.

(b) Bacterial Ring Rot Disease of Potatoes (1956 Program)

Ever since the Bacterial Ring Rot disease of potatoes appeared in Alberta in 1937, the Department has been conducting a control program to curb this disease. In spite of the fact that the acreage in potatoes has been maintained, new areas have opened up, and there was traffic in potatoes from the United States and elsewhere to Alberta, from areas where Ring Rot is known to exist, this disease has been held in check. In the fields where it has appeared, the degree of infestation has been exceptionally light.

By the end of March practically all of the 1955 Ring Rot stocks were cleaned up on the farms. A list of available seed potatoes was prepared by this Branch and mailed to all the commercial growers in the province. Many growers have now requested that this service be continued. All storage premises on farms where Ring Rot appeared were thoroughly fumigated.

For the second year in succession, the Department did not purchase any seed stocks in southern Alberta. Arrangements were satisfactorily completed with the southern Alberta Certified Potato Growers' Association which accepted local orders from growers who had Ring Rot. In other districts growers were directed to all local and other seed channels. There were 27 tons purchased from Lacombe for the Brooks area.

The Bacterial Ring Rot survey of the 1956 crop started on August 28, with sixteen inspectors employed. Detailed training schools for the inspectors were conducted at Edmonton and Lethbridge. In all areas the potato crops were sufficiently advanced and the weather conditions excellent to allow for a very thorough inspection. The majority of inspections were completed before the first killing frost of September. The frosts interfered with some inspections in the Lethbridge area, but very pronounced symptoms this year, were still very evident even after the killing frost. In all areas re-inspections were made in doubtful cases.

The table below shows the number of fields and the acreage inspected in 1956, with 1951-1955 results included for comparison purposes:

RESULTS OF THE 1956 RING ROT SURVEY BY PEST AREAS ALSO SHOWING YEARS 1951-1956 INCLUSIVE

Pest Area	Year	No. Farms Inspected	No. Farms Diseased	Acreage Inspected	Acreage Diseased	% Diseased of Total Farms	% Diseased of Total Acreage
Lethbridge	1951	313	31	4,000	220	9.9	5.5
	1952	282	59	3,284	759	20.6	23.1
	1953	281	58	3,977	1,144	22.4	28.7
	1954	276	17	3,911	144	6.2	3.7
	1955	285	47	4,500	1,111	16.5	24.7
	1956	261	45	5,173	1,401	17.2	27.1
Calgary	1951	111	4	235	15	3.6	6.4
	1952	64	0	144	0	0	0
	1953	66	5	191	26	7.5	13.6
	1954	87	0	271	0	0	0
	1955	68	9	308	44	13.2	14.2
	1956	50	6	300	27	12	9
Brooks	1951	92	2	1,230	24	2.2	1.9
	1952	69	2	1,055	5	0.03	0.5
	1953	61	3	1,160	65	4.9	5.6
	1954	58	7	1,131	134	12.0	11.8
	1955	56	8	1,110	151	14.3	13.6
	1956	56	13	1,222	228	23.2	18.6
Edmonton	1951	255	22	2,008	219	8.6	10.9
	1952	187	14	1,802	56	7.6	3.1
	1953	195	9	2,202	144	5.2	6.5
	1954	210	3	2,291	39	1.5	1.8
	1955	190	14	2,050	101	7.4	4.9
	1956	200	38	2,602	608	19	23.3
Total	1951	771	59	7,473	478	7.7	6.4
	1952	601	75	6,286	819	12.5	13.0
	1953	603	75	7,530	1,379	12.4	18.3
	1954	631	27	7,604	317	4.3	4.2
	1955	599	78	7,968	1,407	13.0	17.6
	1956	567	102	9,297	2,264	17.9	24.3

There was a total of 567 potato fields examined which was less than any year since 1951. The total acreage, however, was 9,297, or the greatest acreage since that year. This indicates a tendency towards larger fields.

In the overall picture, there was some increase in the incidence of Bacterial Ring Rot over 1955 both as to the number of farms having Ring Rot and in the total acreage. However, in practically all the fields where Ring Rot was found, there was only a trace of infection. In a number of fields only 1 or 2 plants could be found after a thorough combing. This is a significant improvement when compared to the heavier infections of a few years ago.

The highest increase in the number of Ring Rot fields and the infested acreage was in the Edmonton area. There were 38 fields showing infection as compared with 22 in 1951, and 14 last year. The high acreage infested was due to eleven large fields infested. It is difficult to find the reasons for this large increase in Ring Rot. One reason is that in 1955, the disease did not express itself as readily as this year, resulting in some misses on the late planted fields. With a thorough clean up this year, the planting of certified stock, and more seed plots there should be a pronounced improvement in 1957.

It is interesting to note that in the Calgary area proper (Forest Lawn) there were only 2 growers who had Ring Rot. There was a significant decrease in the overall picture in this region, only 9% of the total inspected acreage diseased as compared with 14.2% in 1955. Even this acreage would have been substantially decreased had no Ring Rot been found on one large seed field. The Calgary region has been showing yearly improvement.

There was some deterioration in the Ring Rot picture in the Brooks area, where 13 fields showed infection as compared with 8 in 1955. It is discouraging that there were 3 large seed growers on whose fields Ring Rot was found. In one case, at least, the disease was found in imported seed from the United States. Good strides have already been made to improve the Ring Rot situation in this area. Many growers have arranged to obtain seed from the Lacombe district (Ring Rot free area) for the 1957 planting.

Although there was a slight increase in the incidence of Bacterial Ring Rot (less than 1%) over last year in the Lethbridge area, there was a very pronounced decrease over 1952 and 1953. A smaller number of growers, many of whom are making potato production an important part of their total crop production, utilizing better seed and modern equipment has contributed to an improved condition at Lethbridge. The Seed Potato Growers' Association is also aiding materially in a wider distribution of quality seed.

In former years, growers who had Ring Rot on their farms were asked to plant any seed providing it was free of Ring Rot. With increased acreage in seed potato production our policy was changed this year, whereby for the 1957 plantings such growers must obtain seed from fields which had passed inspection for certification. With restrictions which are imposed on potato imports, and the wider planting of certified seed in commercial plantings, there should be some note-worthy improvement in the Bacterial Ring Rot picture in Alberta.

There were 4 meetings held at Brooks, Vauxhall, Taber and Lethbridge in November to which all growers having Ring Rot stocks as well as other were invited to attend. A program was laid out regarding the disposition of stock, and the acquisition of seed for spring planting. In conjunction with these meetings, potato grading schools were held at all points with grading inspectors in charge. A total of 132 growers attended both sessions.

LIVESTOCK PESTS

Cattle Grubs (Warble Fly)

During 1956, cattlemen continued to show increasing interest and concern about the warble grubs. Meat packing plants reported heavy damage and losses during early spring due to perforated hides and extensive trimming of valuable meat cuts to remove grubs and grub damage. The number of warbles appearing on the backs of cattle was about the same as in 1955 but there was evident an increasing awareness of the problem by most people concerned.

A number of Municipalities have organized campaigns where a Municipal sprayer is used or where treatment is done through organized local spraying associations. Such warble control campaigns were conducted during the spring in the Municipal Districts of Lacombe, Wetaskiwin, Wainwright, Flagstaff, Turner Valley, Pincher Creek, Cardston and Lac Ste. Anne. The Lacombe Municipality had 4 active spraying associations which treated the majority of cattle within the Municipality. There were numerous cases of small groups of farmers who purchased a high-pressure sprayer for warble treatment on a co-operative basis.

There was an increase in the estimated number of cattle treated from 375,000 in 1955 to 400,000 in 1956. Seventeen spraying demonstrations were held in the following Municipalities: Stony Plain, Lac Ste. Anne, Leduc, Sturgeon River and County of Thorhild. These demonstrations were conducted by use of the Department power sprayer with some Branch official in attendance. Over 1,000 cattle were treated at these demonstrations and about 400 farmers participated. The main theme was to impress the results possible through co-operative effort and use of proper equipment.

Publication No. 98 "Warble Fly Control" was prepared and distributed throughout the Province.

Cattle Lice

There was increased interest and concern over lice in cattle. Organized spraying campaigns through Agricultural Service Boards and cattle spraying associations resulted in more cattle treated. It is estimated that 215,000 cattle were treated for lice during 1956. Five spraying demonstrations were conducted by use of the Department sprayer with some Branch official in attendance.

Publication No. 73 "Louse Control in Cattle" was prepared and distributed throughout the Province.

RODENT CONTROL

Pocket Gophers

Numerous complaints were received from many parts of the province about the damage to forage fields, gardens and lawns by the pocket gopher. A large number of releases on control methods were mailed out to farmers and gardeners.

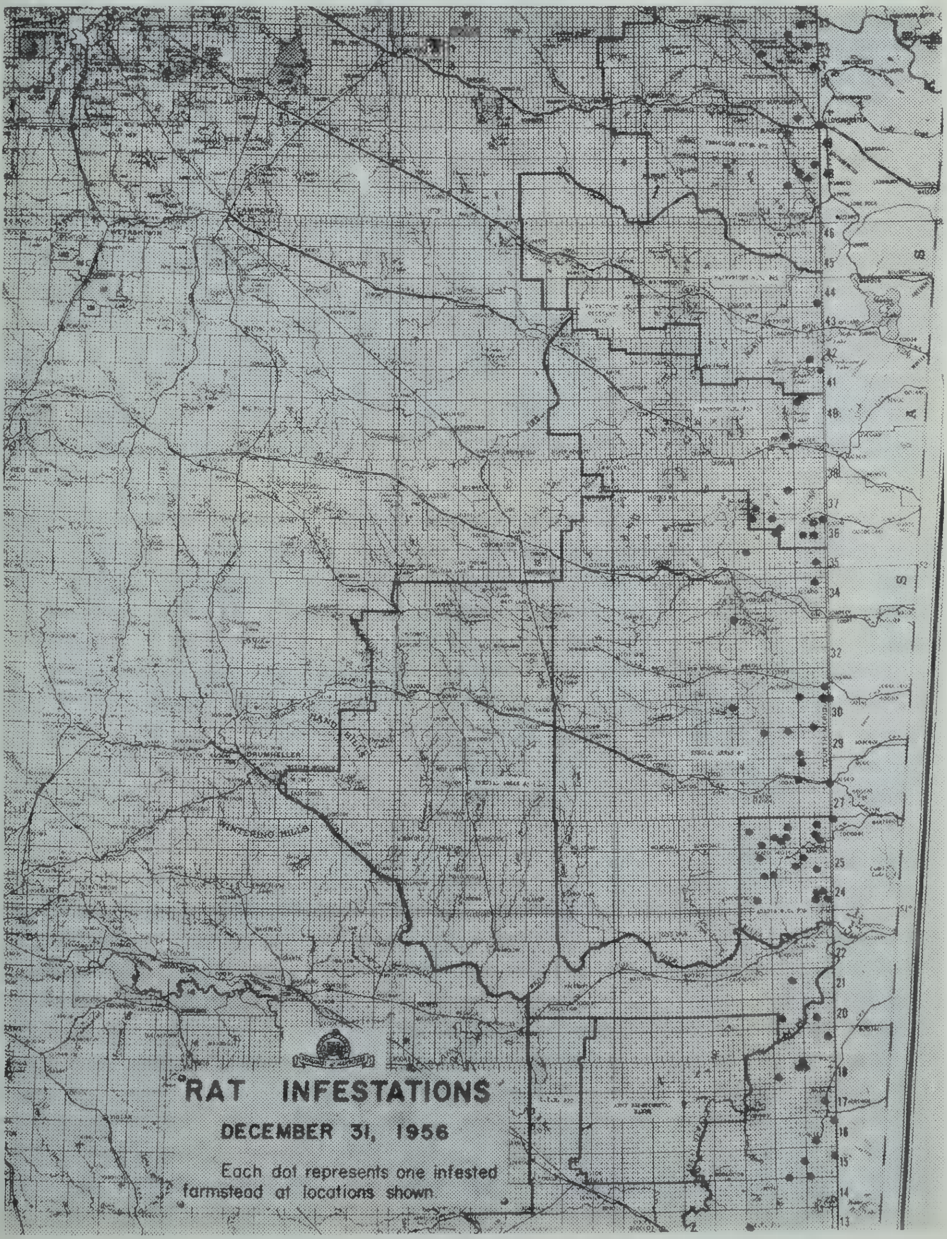
Trials on control methods were continued in the Edmonton area to determine some simple but effective means of controlling this pest.

Columbia Ground Squirrel

This pest continued to plague some farms in the foothills of south-western Alberta.

Norway Rats

The general area of infestation along the Saskatchewan boundary was reduced at the north and south ends. Several rat colonies at Sputinow in Township 57 were wiped out and no re-infestations have appeared north of the North Saskatchewan river. Townships 9 to 12 were also cleaned out during the year. The



RAT INFESTATIONS

DECEMBER 31, 1956

Each dot represents one infested farmstead at locations shown.

infested area now extends from the North Saskatchewan river to Township 13 in the Schuler area. Rats are, for the most part, confined to Ranges 1 and 2 and no significant advance westward has been made during the year.

Colonies are being exterminated as they converge at farmsteads and urban premises for winter quarters. Interest and co-operation are steadily improving—premises in and adjacent to the infested area are being cleaned up to eliminate basic rat food and shelter; construction and maintenance of rat-proofed buildings is being encouraged; residents are setting out permanent bait stations to poison off existing or migrating rats.

The following table shows the rat situation as at December 31, 1956, with 1955 results for comparison purposes:

	Farms Checked		Farms Infested		Farms Infested But Exterminated		Farms Exterminated But Re-infested	
District	1955	1956	1955	1956	1955	1956	1955	1956
Vermilion River M.D. No. 71	731	606	65	20	64	135	2	1
Wainwright M.D. No. 61	519	427	2	2	34	36	1	6
Provost M.D. No. 52	500	372	13	13	83	76	6	11
Special Areas No. 2 and No. 3	476	838	35	20	140	41	0	6
Acadia M.D. No. 34	156	162	26	20	33	55	3	13
L.I.D. No. 11	464	368	21	14	57	60	7	2
Totals	2,846	2,773	162	89	411	403	19	39

Of the 492 premises infested during the year, all but 89 farms showed complete extermination. The 89 infested farms is a considerable reduction from the 162 farms that showed rat evidence at the end of 1955. Pest Control Officers report that in remaining infestations the rat populations have been reduced to a small number. As indicated by re-infestations, the rat movement from the east was heavier than in 1955 especially during the warm, open fall period. Troublesome areas during the year were Lloydminster, Provost and Acadia Valley.

Warfarin and Pival poison baits, plus carbon monoxide, were the main control measures used. The above poisons were supplied, free of charge, in the concentrate, ready-to-use and water bait forms. During 1956, 5 pounds of concentrate, 10,450 pounds of ready-mixed-bait and 3,840 packages (making 3,840 quarts of water bait) were distributed. Most formulations are the results of trials conducted on caged, wild rats and at infested premises. The ready-mixed bait has proven satisfactory at most locations and the water baits have been particularly effective under summer conditions. By conservative estimate, using average populations on infested farms and the amount of poisons used, over 28,000 rats were killed during 1956.

Most rural municipalities, cities, towns and villages have appointed Pest Control Officers to handle local rat reports and problems. A total of 245 officers have been appointed throughout the province. Two full-time provincial Pest Officers supervised the campaign in the border area, working closely with municipal officers and farmers. As initiated in 1954, the Department continued a grant of 50% toward the salary and expenses of pest officers in border municipalities. The following Municipalities have appointed Pest Officers under this plan: Vermilion River M.D. No. 71, Wainwright M.D. No. 61, Provost M.D. No. 52, Special Areas No. 2 and No. 3, Acadia M.D. No. 34 and I.D. No. 11.

These men made farm-to-farm checks, demonstrating and applying control and preventive measures.

Rat posters and various literature were distributed through District Agriculturists and Pest Control Officers to get the public more "rat conscious". Regional meetings of responsible government and municipal officials were held at Wainwright and Oyen to discuss the situation and plan further steps in the control campaign. Ten public meetings were addressed where rat control was the main topic discussed. Meeting attendance was 1,037 people. Abount 12 demonstrations and displays were conducted during summer fairs and other public gatherings. Forty-eight rat reports were investigated during the year. Publication No. 69 "Kill Rats With Warfarin or Pival" was revised and printed. Rat Control Kits and Rat News Items were sent out to Pest Officers throughout the province.

Coyote Control

During 1956, the following approved poisons were supplied, free of charge, for coyote control in the settled areas of the province;

(a) Cyanide—in the form of "coyote getters".

(b) Strychnine—as special pellets, each containing 2 grains of strychnine.

(c) Sodium Fluoroacetate—known as "compound 1080", and used in preparing meat baits.

Three new districts accepted the provincial coyote control policy in 1956, making a total of 86 Municipalities, including Counties, Special Areas, Improvement Districts and Indian Reserves. The following table shows the number of districts and the years in which the policy was accepted:

	1951	1952	1953	1954	1955	1956	Total
Counties	......	1	1	......	......	1	3
Municipal Districts	26	12	13	1	1	1	54
Improvement Districts	5	12	8	......	......	......	25
Special Areas	3	......	......	......	......	......	3
Indian Reserves	......	......	......	......	......	1	1
Total Districts	34	25	22	1	1	3	86

Since 1951, when the Department of Agriculture undertook the control of coyotes in the settled areas, a total of 39,960 coyote getters, 106,100 cyanide cartridges and 628,000 strychnine pellets have been distributed by provincial and municipal Pest Control Officers. Since the number of rabies cases decreased considerably and the use of 1080 baits increased, the demand for material was less than in the last few years. However, coyote getters, scent, strychnine and other allied materials, poster and various necessary forms were supplied to the field force, almost daily. More strychnine pellets were used than coyote getters. This form of control is easier to apply for the average farmer and gives satisfactory results. The following table shows the amounts of major materials supplied since 1951 and the estimated coyotes killed by all materials distributed (including 1080 baits):

	1951	1952	1953	1954	1955	1956	Total
Coyote Getters	5,560	4,530	18,800	5,410	4,080	1,580	39,960
Cyanide Cartridges	11,510	12,460	46,030	20,110	10,990	5,000	106,100
Scent (2 oz. jars)	1,050	1,350	8,120	7,370	6,340	3,330	27,560
Strychnine (pellets)	....	....	116,000	192,000	195,500	124,500	628,000
Estimated Coyote Kills	8,400	12,300	56,300	62,100	57,200	50,500	246,800

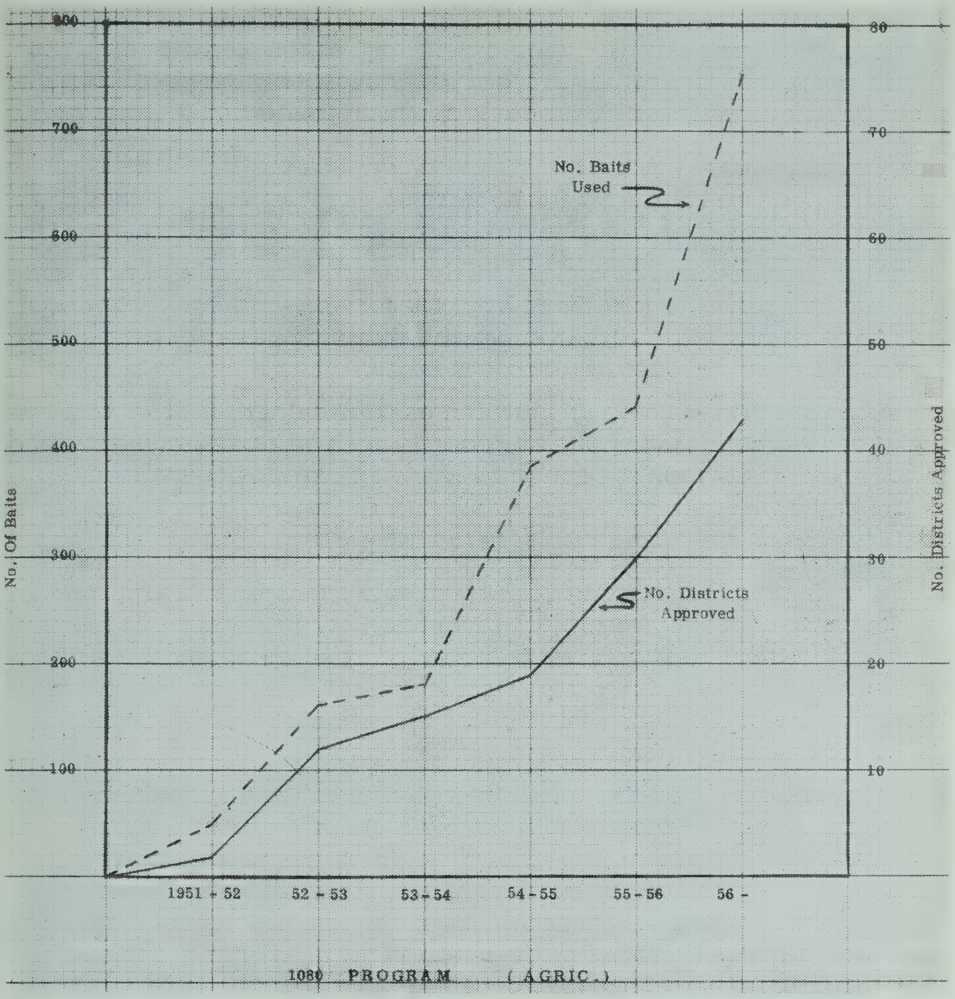
The Branch continued its share of responsibility in the campaign to control rabies. Ten provincial Pest Control Officers were fully employed during the winter period on predator control in Local Improvement Districts. During the summer, 19 men carried out predator control along with other duties. Coyote control, as evidenced by the amount of material used and the estimated kills, was kept at a high level in most regions.

The poison 1080 was restricted to sparsely settled regions and to open areas in the more heavily populated districts, where poisoning could be carried out effectively but with maximum safety to the public. As requested by Municipalities and approved by the Minister, the following 1080 baits were prepared and set during 1956 in areas as shown with a comparison of sets dating back to 1951, when 1080 was first tested in the province:

	No. Baits Prepared and Set					
District	1951	1952	1953	1954	1955	1956
Cardston M.D. No. 6	......	......	......	55	34	44
Willow Creek M.D. No. 26	......	......	......	9	12	34
Pincher Creek M.D. No. 9	25	27	18	29	10	30
Forty Mile M.D. No. 2	......	......	......	22	30	24
County of Warner No. 5	......	......	......	..	7	9
I.D. No. 11	......	2	8	9	19	22
I.D. No. 22	......	23	19	12	13	16
Taber M. D. No. 14	......	......	......	..	18	10
County of Newell No. 4	......	......	......	28	19	26
Blackfoot Indian Reserve	......	......	......	......	9	24
Blood Indian Reserve	......	......	9	9		
I.D. No. 50	......	......	......	......	10	14
I.D. No. 46	......	......	......	20	10	14
I.D. No. 58	......	......	......	......	10	16
I.D. No. 101	......	......	......	......	2	3
Rocky View M.D. No. 44	......	......	......	......	10	34
Kneehill M.D. No. 48	......	......	......	......	12	34
Wetaskiwin M.D. No. 74	......	......	......	......	11	10
Special Areas No. 2 and No. 3	......	10	......	57	43	38
I.D. No. 65	......	......	......	......	11	33
Raven M.D. No. 57	......	......	......	......	9	
Mountain View M.D. No. 49	......	......	......		20	32
Lac Ste. Anne M.D. 93	......	......	13	31	12	15
Bonnyville M.D. No. 87	......	9	10	14	12	10
County of Grande Prairie No. 1	......	9	10	......	11	......
Stony Plain M.D. No. 84	......	......	......	7	9	15
Wheatland M.D. No. 40	......	......	......	......	......	36
Lethbridge M.D. 25	......	......	......	......	......	22
Foothills M.D. No. 31	......	......	......	18	......	21
I.D. No. 1	......	......	18	8	9	......
Bow Valley M.D. 40	......	......	......	18	......	......
Army Experimental Range	......	10	10	9	......	......
Cochrane M.D. No. 6	25	22	21	......	......	......
Sugar City M.D. No. 5	......	21	20	......	......	......
Burlington M.D. No. 2	......	10	20	......	......	......
I.D. No. 23	......	......	8	......	......	......
Wainwright Military Camp	......	......	......	32	15	......
County of Vulcan No. 2	......	......	......	......	......	10
Red Deer M.D. No. 55	......	......	......	......	......	22
County of Stettler No. 6	......	......	......	......	......	16
Paintearth M.D. No. 53	......	......	......	......	......	16
Starland M.D. No. 47	......	......	......	......	......	25
Eagle M.D. No. 81	......	......	......	......	......	15
Vermilion River M.D. No. 71	......	......	......	......	......	11
I.D. No. 68	......	......	......	......	......	6
I.D. No. 85	......	......	......	......	......	2
I.D. No. 107	......	......	......	......	......	14
Strathcona M.D. No. 83	......	......	......	......	......	10
Athabasca M.D. No. 103	......	......	......	......	......	10
County of Vulcan	......	......	......	......	......	10
Totals	50	143	184	387	387	753

The number of areas using 1080 baits increased from 30 in 1955 to 39 districts in 1956. Number of baits increased from 387 to 753 baits set out in 1956.

The publication "Poisons for Coyote Control" continued in strong demand with some 1,500 copies distributed. Coyote control meetings were held in many regions of the province with much interest and concern shown by most residents.



Extension, Field Days, Meetings, Educational Publicity, Etc.

In co-operation with the District Agriculturists, Field Supervisors and some technical personnel of the trade, 11 cereal disease control trials were set out at Stony Plain, Edmonton, Morinville, Vermilion, Lamont, Sedgewick, Lethbridge, Leduc, Lac La Biche and Olds. They were all supervised by this Branch. Field Days were held at most points and the results demonstrated. All these plots were harvested.

The Crop Protection and Pest Control display was prepared and exhibited at Agricultural Short Courses at Calgary and Lethbridge featuring Field Crop Insect Control, Rat Control, Coyote Control and the provincial Bacterial Ring Rot Control Program.

The Supervisor of Crop Protection and Pest Control and his Assistant spoke at 2 Agricultural Short Courses, 3 Service Clubs, and 24 other meetings. Eight Agricultural Service Board and Council meetings were attended on various pest control matters. Eleven special Rat Control meetings were organized and held. Sixty-nine rat reports were investigated and recommendations made. Potatoes were judged at 4 Achievement Days and cereal grains at 9 others. Two weeks were taken on Bacterial Ring Rot survey. There were 13 radio talks and interviews made. Twenty-three articles on timely topics were prepared and released in the

"Farm Notes". A total of 244 field investigations on crop protection and pest control problems were made during the year. There were 121 insect and plant disease specimens received for identification, and control measures recommended.

Acknowledgment

Sincere appreciation and grateful acknowledgment is hereby made to the Entomologists and Pathologists of the Canada Department of Agriculture, and the University of Alberta, for providing this Branch with the results of various surveys and for their assistance and information in planning and conducting programs for the control of plant diseases and insect pests.

Appreciation is also gratefully acknowledged to the Department of Zoology, University of Alberta, for the assistance provided in identifying various rodents and other specimens submitted.

HORTICULTURE SERVICE

Tree Planting

In 1956 Alberta farmers planted 1,473,450 trees. This is a drop of 208,864 from the previous year. The Alberta Government Nurseries supplied 68% of the trees and the remainder was supplied by the Canada Department of Agriculture.

The two Government mechanical tree planters were used for demonstration purposes. Planting demonstrations were held at Westlock, Edmonton, Claresholm, Brooks, Strathmore, Vermilion and Grande Prairie districts.

As in previous years the majority of the trees were used for farmstead shelterbelts although each year more Alberta farmers are realizing the value of trees to assist in controlling soil erosion and beautifying and protecting roads and are planting trees for these purposes.

1956 was an ideal year for starting trees. There was a plentiful supply of moisture in the soil at planting time and the June rains insured the trees making a good root system. July and August were hot but because the trees had become well established the losses were very low although some farmers reported losses in the case of hardwood cuttings of poplar and willow. The Nurseries are continuing experimental work to solve this problem and every precaution was taken to see that the trees were shipped in first class shape.

Forest Nursery Station—Edmonton

In 1956, 750,630 trees and 116,865 hardwood cuttings of poplar and willow were shipped to 1,790 applicants. This was an increase over 1955 of 48,620 in the number of trees supplied and an increase of 328 in the number of applicants receiving trees from this Nursery.

An inventory of trees on the Nursery at the end of the year included 3,000,000 evergreens, 1,000,000 deciduous trees not yet ready for distribution and 1,000,000 decidous trees to be distributed in 1957. In addition to these 5,000,000 rooted trees the Nursery staff have made 200,000 hardwood cuttings of poplar and willow.

The Nursery employs a staff of three permanent men. In the summer, 5 extra men are hired plus 6 patients from the Oliver hospital. Six additional men were hired at shipping time and eight extra to assist in the fall work.

A further twenty acres were added to the Nursery and one and one-half miles of new shelterbelts established. A 50′ × 20′ extension was added to the packing shed and additional roads were graded and gravelled. The bridge over the creek was replaced by three culverts and rock fill. The following new equipment was added to the Nursery. A tractor and front end loader, a transplanter, one-ton truck and a twelve-foot boom sprayer.

The 1956 conifer seed crop was very poor and the staff was able to gather only a few sacks of cones. In addition to the evergreen seed the Nursery employees collected seed of green ash, mountain ash and Manitoba maple.

Further trials were established to determine the feasibility of controlling weeds by chemicals. The weeds were kept well under control through intensive cultivation.

An outbreak of spruce sawfly and red spider mite was controlled by spraying with Malathion.

Potato Fertilizer Trials

The tests to determine the value of fertilizer on potatoes was continued in 1956. Two farms in the Edmonton district, two in the Lacombe area and two in the Rocky Mountain House district were used for these trials. The results were presented to the Fertilizer Committee. It is anticipated these trials will be carried out again in 1957.

Potato Production Improvement Committee

This Committee, appointed by the Horticultural Advisory Board, is composed of potato growers from all commercial producing areas of the Province and Government personnel interested in potato production. It has the responsibility of assisting and advising the potato industry in the Province and acting in an advisory capacity to the Horticultural Advisory Board.

Two meetings were held in 1956, the Annual Meeting in Calgary in February and a second in conjunction with a Field Day in the Taber-Lethbridge area in August. The publication "Potato Production in Alberta" is in the final stages of preparation.

Tuber Indexing of Foundation Seed

The service of Indexing foundation potatoes was continued jointly by the Field Crops Branch, the Brooks Horticultural Station, the University of Alberta and the Canada Department of Agriculture. 1,357 tubers, a reduction of 280 tubers from 1955, were grown in the greenhouse at the Brooks Horticultural Station and disease readings taken early in April by a Plant Pathologist. 71.9% of the tubers qualified as suitable for production of foundation seed. 18.3% showed very slight mosaic, 0.96% showed mild mosaic, 1.4% showed leaf roll, 4.4% showed rhizoctonia, 2.3% were weak, 0.36% were misses, 0.3% showed Haywire and 0.8% showed purple top.

Seed Potato Production

The following table is a 7-year summary relative to seed production in Alberta.

	1950	1951	1952	1953	1954	1955	1956
No. of Growers	156	114	81	86	70	67	72
No. of Fields Inspected	293	212	177	200	223	228	220
Acres Inspected for Cert.	1,684	975	702	942	1,022	1,004	1,328
No. of Fields Receiving Cert.	247	183	163	168	198	214	186
Acres Passed for Cert.	....	....	578	844	905	965	1,129

Other Activities

The Supervisor of Horticulture spoke at 17 public meetings. In addition to these meetings he spent some time in 24 District Agriculturists' areas assisting with tree planting, Farmstead Planning, advising on Demonstration Orchards and other Horticultural matters. He acted as judge at four Horticulture Bench Shows and assisted at three 4-H Garden Club Achievement Days. He attended four meetings of the Alberta Horticultural Association and attended nine General Meetings and one Executive Meeting of the Edmonton and District Planning Commission. Six radio talks were given on the Department's program "Call of the Land" and thirteen press releases on timely subjects were published in the Department's weekly release "Farm Notes".

Nursery Inspection

In co-operation with personnel of the Canada Department of Agriculture Science Service the Supervisor of Horticulture inspected ten commercial nurseries. The inspection is carried out each year to check the Nurseries for disease and insects. Particular attention is paid to imported nursery stock. As a result of this inspection, the Department in co-operation with the other two Prairie Provinces publishes a list of Prairie Nurseries.

Horticultural Advisory Board

This Board, appointed by the Minister of Agriculture, is composed of representatives of the Field Crops Branch, University of Alberta, Experimental Farms Service, the Science Service of the Canadian Department of Agriculture and the Canadian Nurserymen's Association. The Board meets once a year and is charged with the responsibility of recommending to the Minister regarding all matters pertaining to horticulture.

Alberta Horticultural Association

The Association held its fourth Annual Meeting at Olds on April 12th and 13th. The second Provincial Horticultural Show was held in Edmonton on August 24th and 25th. It was an outstanding artistic success. The next Provincial Show is planned for Lethbridge. The Executive met at the following locations, Lacombe, Edmonton and Lethbridge. Nine local Societies joined the Provincial organization in 1956.

REPORT OF THE HORTICULTURAL STATION BROOKS

Increasing numbers of visitors to the Station highlighted the year's activity, and has pointed to the need for a definite visitors program, which is a very positive method of promoting horticultural extension work.

The provision of an adequate domestic water supply for the Station continues to be a pressing problem, pointed up by a nearly disastrous fire in the warehouse in September. Fortunately the temporary supply pond was well filled at the time and with the co-operative effort of the Brooks Volunteer Fire Brigade, the fire was restricted to the west end of the warehouse. The resulting damage has been repaired, but damaged and destroyed equipment and supplies will need to be replaced.

The rapid development of both shelter-belt and orchard trees has brought better protection to the Station and the promise of early fruit production from the young fruit trees.

The leasing, during 1956, of a small corner of land adjacent to the Station, will facilitate the improvement of Station land insofar as both irrigation and drainage problems are concerned. The special importance of the latter problem has been pointed up by the practical problems being faced in producing specialized crops. The Station land, some portions of which have in the past lacked adequate drainage, have relatively high salt concentrations. It is hoped that improved drainage, careful use of water plus subsoiling and the use of green manure and cover crops will correct this problem.

Late spring weather conditions delayed 1956 tree shipping and planting a week beyond normal. Continuous mild weather late in the fall delayed leaf fall on tree shipping stock for 1957. Therefore digging was delayed, though better wood maturity resulted with most stock. Severe freezing weather occurred before digging was completed.

Administration

Departmentalizing of the fields of work at the Station made good progress during the year. Training of staff is vital to this program and for replacement of retiring personnel. Technical help is required in the fruit section. This type of work in the vegetable section was handled by D. A. Shaw during the past year. Enlarging of the tuber indexing and virus inoculation tests has required extra help. This work is being made a part of the vegetable program.

Vegetable extension work placed heavier demands on the time of the workers at the Station. This time was utilized in study of special crops production problems in the new irrigated areas. Studies of processing, packaging, and marketing of fresh vegetables paralleled this work. During a trip to the potato areas of Idaho both the potato and fresh vegetable developments there were investigated and a report prepared.

Station Staff made a seed gathering trip to Saskatchewan and attended meetings of the Western Canadian Society for Horticulture and the American Society for Horticultural Science.

Equipment obtained by the Station during 1956 was basically for equipping the laboratory. Most important units were a Dissecting Microscope, a sliding Microtone, plus chemical and glass supplies. Farm machinery was supplemented with an orchard disc and tiller.

Labor for casual work was difficult to obtain; therefore a higher percentage of the labor was undertaken by women workers in 1956.

Maintenance and propagation demanded a higher percentage of time. A comparison of the distribution of labor to the various sections of Station work in 1955 and 1956 is set out below:

Type of Work	1955	1956	
Propagation of Trees and Shrubs	28%	30.3%	34%
Assembling and Distribution of Trees ('56)	..... %	3.7%	
Vegetables and Potatoes	18%	14.1%	
Orchards	11%	7.6%	
Greenhouses	8%	6.6%	
Ornamentals	10%	0.1%	
Other Crops	15%	14.1%	
Maintenance	6%	21.0%	
Weather	4%	3.7%	
Office, Landscaping, Frozen Food, Lab.	..... %	2.0%	

Propagation of cutting material presented difficulties in 1956. It is felt that the difficulty was due in part to high soil-salt conditions. Propagation areas will be changed in an endeavor to overcome this trouble.

A start was made on orchard removal and clean-up. The areas concerned are located at the east Station and will be replanted to soil-building crops.

Extension

The staff of the Station assisted at 50 meetings of various groups and 31 calls were made at farms and irrigation sites, on behalf of interested parties, investigating irrigation problems, specialized crops, and storage. Assistance in judging was given at 6 Horticultural and Garden Club Shows; members of the staff assisted at 7 Short Courses held at various points in Southern Alberta. Ten large groups made use of Station facilities for meeting purposes. Some 1,680 visitors recorded their calls at the Station. During June, a member of the Staff, along with Mr. McCalla, Supervisor of Horticulture, inspected and assessed performance of fruit varieties in 13 demonstration orchards in the north-east portion of the Province. A substantial increase in volume of correspondence occurred again during the year. Landscape plans were prepared for 18 farms.

Climate

The winter was very cold throughout with a very heavy cover of snow up to the end of March. No chinook winds were recorded which is unusual for this part of the Province. Generally speaking the winter appeared good for trees, shrubs, and perennials yet they suffered severely. This was apparently due to early frost in the fall of 1955 and the sudden drop of temperature from above freezing to well below freezing early in the spring. The extreme low temperature was —45°F. in February and the extreme high temperature was 94°F. in June and July. The late summer was rather wet with 3.73 inches of rain being received during the month of August. A summary of meteorological conditions appear in the following table:

Month	Temp.		Mean Temp.		Mean Temp.	Precipitation in inches	Hours of Sunshine
	Max.	Min.	Max.	Min.			
January	40	—34	9.6	—11.3	— 0.9	1.17	109.8
February	38	—45	15.0	— 6.7	4.2	0.76	127.7
March	59	—36	30.4	9.9	20.2	1.57	129.1
April	69	10	49.3	25.4	37.4	0.48	221.1
May	86	30	66.4	38.3	52.4	0.75	286.4
June	94	37	73.3	47.4	60.4	2.23	289.3
July	94	44	78.8	52.6	65.7	0.88	334.2
August	88	38	75.2	50.2	62.7	3.73	316.8
September	81	27	66.5	39.8	53.2	1.50	202.3
October	76	17	54.6	31.3	43.0	0.22	172.8
November	61	5	45.8	20.1	33.0	0.08	140.1
December	53	—39	25.9	4.4	14.6	0.92	84.7
						14.29	2,414.3

Length of growing season—114 days
Last killing spring frost—May 13th
First killing fall frost—September 5th

Length of growing season 114 days. Last killing spring frost—May 13th, first killing fall frost—September 5th.

Propagation and Distribution of Trees and Shrubs

In 1956 there was an increase of 20% in the number of requests for planting material, making a total of 1,133 requests. However the average number of trees shipped to each applicant was lower, making the total amount shipped about the same as the previous year. In total 160,000 were shipped along with 20,000 poplar and 30,000 willow cuttings.

There were 84 requests for fruit trees and a total of 620 budded stocks were shipped in this distribution. Eleven demonstration, 12 farm, and 4 replacement orchards were sent out.

The bundles of mixed plants for roadside planting met with further success this past season; 114 bundles of dwarf-growing and 115 bundles of tall-growing shrubs were shipped, an increase of 35% over the previous years. Shipping was started on April 24th and finished on May 24th.

The planting of tree seeds in the lattice frames began on May 7th. A total of 727 pounds of seed being sown. Transplanting seedlings in the field started on May 8th. To reduce the extra work of transplanting all varieties, an increased amount of seeding was done in the field. Should results prove satisfactory this practice will receive further attention. The willow and poplar cuttings did not do well at the Station, yet part of the same stocks set at Strathmore gave a 70% catch, with good growth. Irrigation was carried on the same as in previous years, using the sprinkler system for all seeds and small plants.

Tree and shrub seeds were obtained by importing from the United States and by collecting all available in the Brooks area. In addition a suitable lot of scarce seed was collected at Sutherland, Saskatchewan, by two members of the staff from the Station.

Further study in the behaviour of seeds hard to germinate is being carried out. The results from previous investigations have been helpful in obtaining satisfactory stands of seedlings.

The budding of fruit trees was started August 7th and finished August 23rd. This was a week later than last year, owing to the late maturity of the buds. Fall digging of plants for spring shipment was delayed by the slow ripening of the wood. The poplar, willow and maple were dug and taken by truck to Edmonton for spring distribution, a total of 90,000 plants being transported.

Many requests for Griffin Poplar, which was released last year, came in from interested parties, also 14 nurserymen made application for plants and cuttings. This poplar, being male and with a distinctive Lombardy habit of growth, has met with favor wherever grown, and particularly in the United States.

The red-flowered ornamental crabapple, introduced previously as AL 14-A-11, then as B No. 6, was last year named Jubilee (Alberta's fiftieth year). This is one of the hardiest rosybloom crabs with deep red flowers in the spring and the same color of fruit in the fall making it a good landscape specimen.

Trees and Small Fruits

A seedling pear orchard was laid out in the spring for root stock propagating purposes. Most of the pear trees were received from the Boughen Nurseries and are all quite hardy. In all the variety orchards the damaged trees were replaced in so far as the replacement trees were available. The fruit tree seedling orchard was increased by 2,000 young trees, all of controlled cross parentage, received from the Morden Experimental Station. As the first seedlings planted in the spring of 1953 now have enough growth the first data was recorded on the behaviour of these seedlings with respect to hardiness and vigor. Initially a large number of these seedlings are showing a high degree of resistance to winter killing.

The raspberry varieties and raspberry seedling plots suffered severe winter killing of the canes but all plants recovered satisfactorily by new growth from the roots during the past summer. The currant and gooseberry varieties were considerably hardier and very little winter injury occurred.

The rhubarb variety and seedling plots progressed satisfactorily. Among the seedling stocks, some of those susceptible to red-leaf disease, have been eliminated; the remainder are being carried for further observation and selection work.

Vegetables

Foundation seed was produced in 1956 from two sweet corn varieties and one variety each of carrot, red beet, cucumber and squash. The seed harvested was in good condition, with all samples showing relative freedom from disease during the growing season.

In the vegetable breeding program 86 crosses and initial selections of tomato were grown. Seed has been retained from 34 selections made during the growing season, for continued work in 1957. Twenty-seven lines of Evergreen cabbage were field-set for seed production and lots of seed harvested from all but one Baby-head line which proved too weak to set seed and was therefore discarded.

The vegetable variety tests included numerous varieties relatively new to the Province, as well as many others carried to determine their adaptation for freezing by comparison with recommended varieties. In all, the vegetable program consisted of the following: 60 sweet corn varieties; 61 tomato; 9 Prairie Vegetable Trial tomato varieties (cooperative test with Canada Department of Agriculture); 70 green, pole, field, broad, and lima beans; 22 garden pea, 21 carrot; 12 red beet; 11 onion; 10 summer and swede turnips; 11 cabbage; 10 cucumber; 12 pepper, and 57 varieties of the less important kinds of vegetables. Within the above kinds 83 varieties were processed in the laboratory for checking their adaptability for freezer storage. Varieties which performed very well in 1956 follow:

Green Bean—Reliable, Seminole
Pole Green—Blue Lake, Champagne
Broad Bean—Green Giant Longpod
Pea—Stratagem, Hundredfold
Carrot—Red-cored Chantenay, Nantes Strong-top
Red Beet—Detroit Dark Red, Early Wonder
Onion—Autumn Spice, Autumn Brown
Broccoli—Waltham No. 29, Green Mountain
Early Cabbage—Morden Dwarf
Late Cabbage—Bonanza
Cauliflower—Mont Blanc, Snowdrift
Celery—Utah
Cucumber—Wisconsin S.M.R.—12
Lettuce—Premier Great Lakes
Eggplant—Sennari
Pepper—Merrimack Wonder, California Wonder

Potatoes

The 1956 growing season was quite favorable for potato production. Since the potato breeding work is being carried on at the new Station the variety and tuber-indexing plots were grown at the old Station for purposes of disease isolation. Approximately 4 acres of Netted Gem potatoes were grown and all passed inspection as foundation seed. All plots performed well due to the sandy, more suitable soil for potatoes at the old Station. A much smoother crop was harvested than is usually obtained from the heavier soil at the new Station.

Variety Plots—the variety plots did not perform well due to breakdown in the seed pieces. Consequently the data obtained varied from one replicate to another. Varieties in order of yield for a three-year period were Pontiac, Canus, Kennebec, N.D. 29-10-1R, Green Mountain, N.D. 29-06-1R, Columbia Russet, Epicure, Manota, Bliss Triumph, Cherokee, Keswick, U.S.D.A. 134-49-3-51, B.V. 15, Red Warba, Early Gem, King Edward, Ontario, White Warba, and Netted Gem.

As a result of the new program which will be adopted for the 1957 season, approximately 100 samples of Netted Gem and 50 samples of Early Epicure were selected. These are for planting in unit rows, out of which will be selected superior disease-free strains.

Seedlings—Approximately 7,000 new seedlings were field transplanted at the new Station. From the latter 74 selections were retained at digging for storage and further testing. Eighteen 1953 seedling selections were grown. At harvest all these selections showed traces of scab infection not noted on them in other years. Eighty-four 1954 seedling selections were planted for multiplication and observation. Of these, ten were discarded during the growing season for disease or other reasons. The remainder were harvested in good condition. The quality of promising selections will be checked early in 1957 by means of laboratory tests for specific gravity, starch content, and starch granule characteristics.

Greenhouse facilities were again utilized in late August to start 10,000 potato seeds, from which 6,700 seedling plants have matured. Tubers will be field planted for initial selection in 1957.

Tuber Indexing—Thirty-five samples, containing 1,337 tubers were tuber indexed for nine seed growers. The work was done under the supervision of the staff of the Horticultural Station, Brooks, in co-operation with staff from the Division of Plant Pathology, University of Alberta; Crop Protection Service, Canada Department of Agriculture; and Field Crops Branch, Alberta Department of Agriculture. Some preliminary tests were made utilizing the indicator plants (Gomphrena globosa and Datura stramonium), which will be expanded in order to get seed stocks free from Virus X disease. Gomphrena has been found the most suitable indicator plant for the purpose.

Ornamentals

Numerous varieties of herbaceous perennials, already weakened by a severe winter in 1954-55 were partially or wholly killed out after the winter of 1955-56. Most severely affected were the chrysanthemum varieties and selected seedlings, nearly all of which killed out. Less severely affected were Iris, Day-Lilies, Lilies and a few other common perennials. Peonies performed exceptionally well after both severe winters, their early summer display of bloom stimulating much interest and favorable comment from the visiting public in both 1955 and 1956.

A collection of Penstemons (50 species) and some lots of open pollinated peony seed were established during 1955-56 for future selection of desirable new types. Further additions and replacements were made to the Station's variety collection of herbaceous perennials during the past year.

The Iris and Day-Lily plots were re-planted, in order that waste space left through winter-killing can be otherwise utilized.

A collection of miniature Gladiolus (50 varieties) donated to the Station in April of 1956, performed very well, with many of the varieties blooming. Early September frost decreased the amount of bloom from the main Gladiolus collection, with the most bloom coming from the variety Patrician.

Woody ornamentals established, for test and demonstration purposes on the Station, now number 237 varieties and species. This includes 35 additions to the plantings during the past season. Among the new plants are members of the following families: Barberry, Cotoneaster, Caragana, Elderberry, Eunonymus, Hawthorn, Honeysuckle, Lilac, Mock Orange, Plum, and Rose. Exchange collections of seed were received from the Royal Horticultural Society, the North Platte Experimental Station, and the Morton Arboretum.

Seed was harvested from the propagating blocks. This is the first seed stock from the new Station plantings.

Frozen Foods

Vegetables—A total of 83 varieties were processed in the laboratory for freezer testing, with the emphasis being on sweet corn, beans, carrots, and peas.

Fruit—Seven varieties of rhubarb and a few samples of Mongolian bush cherry were processed for freezer testing.

Wrapping Materials—A summary report was prepared during 1956 on results obtained during 1955-56 with 42 different types of wraps for use on meat for freezer storage. This report was presented to the 1956 convention of the Alberta Locker Association for consideration. Twenty new types of wrapping materials have been received during 1956 and are awaiting test.

REPORT OF THE APICULTURE SERVICE

The Apiculture Service and the beekeeping industry in general sustained a great loss in June, 1956, in the death of W. G. leMaistre, Provincial Apiarist since 1938. He was well known throughout Canada for his active interest in and contributions to the beekeeping industry.

Crop Estimate

The estimated honey crop for Alberta in 1956 was 4,277,000 lbs. This is 334,000 lbs. less than the 1955 crop. Production per hive was 32 lbs. less than in 1955. However there was an increase of 8,000 hives in 1956.

The quality of this year's crop was good both in color and in moisture content. Market conditions remained firm; some beekeeper packs were difficult to move due largely to a trend by brokers and wholesalers to handle commercial packs which are uniform, and available throughout the year.

The price received by the producer was about 16 cents per lb. for bulk honey which is the same as that received for the 1955 crop.

There was a carry-over of approximately half a million pounds. This was largely due to importations of American honey. For the past three years there has been insufficient honey produced in Alberta to meet market demands. Buyers obligated themselves to import honey before they were aware there would be a sufficient supply available in the province. There was no reduction in price due to the carry-over.

General Review

Considerable difficulty was realized in obtaining package bees from California. Adverse weather conditions, and floods delayed package bee shipments from a few days to two weeks. Many complaints were received on the quality of package bees and queens, probably the result of the weather conditions already mentioned.

There was a general increase in package bee prices of 20 cents per package. Prices in 1956 for a two pound package delivered in Alberta varied from $4.70 to $5.70 depending on quantity.

Large acreages of legume crops winter-killed in Alberta. In some areas beekeepers experienced difficulty in finding adequate bee pasture. This, coupled with the late arrival of packages, poorer quality of queens and August weather conditions was responsible for the 32 lb. per hive reduction in production.

Alberta beekeepers were successful in winning the following awards at major honey competitions:

ROYAL AGRICULTURAL WINTER FAIR, TORONTO, ONTARIO

Liquid Extracted White (open to Canada):
2nd—A. C. Bradley, Athabasca
5th—Louis Regamey & Son, North Edmonton

Liquid Extracted White (open to 4 western provinces):
2nd—A. C. Bradley, Athabasca
4th—Louis Regamey & Son, North Edmonton

Granulated Honey, White:
3rd—Louis Regamey & Son, North Edmonton.

Comb Honey:
3rd—Louis Regamey & Son, North Edmonton.

Commercial Pack:
3rd—Louis Regamey & Son, North Edmonton.
5th—A. S. Bird, Edmonton

PACIFIC NATIONAL EXPOSITION, VANCOUVER, B.C.

Liquid White:
2nd—Mrs. A. C. Bradley, Athabasca

Granulated White:
1st—Mrs. A. C. Bradley, Athabasca

LONDON, ONTARIO, FAIR

Liquid White:
1st—A. C. Bradley, Athabasca

Granulated White:
1st—A. C. Bradley, Athabasca

Grading

Canada Department of Agricuture, Marketing Services, co-operates with the Alberta Department of Agriculture in inspecting honey, under the Alberta Live Stock and Live Stock Products Act. A report of inspection is as follows:

	1955	1956
Total Inspections	4,690	3,399
No. of Containers under inspection	40,559	23,163
Violations	3	10
Containers under violation	92	125

There were 10 lots of honey placed under detention. These were returned to the packers for reprocessing or regrading.

Inspection services cover only the major cities. There is a need for inspection of honey in rural centres.

This Branch maintains a grading and classifying service for honey producers. Samples may be sent in to determine moisture content and color classification. This year 40 samples were sent in. All were white in color, 35 samples showed less than 17.8% moisture (limit for No. 1); 3 samples were below 18.6% moisture content (No. 2 grade) and 2 were over 18.6% (No. 3 grade).

Extension

The Supervisor of Apiculture spoke at 3 Field Days, 12 District Beekeepers' meetings, and at the Annual Beekeepers' Convention held in Calgary. Lectures were given at School of Agriculture at Olds and Fairview. Five radio talks were given and articles written for various publications. Three general circulars were sent to all registered beekeepers.

One Field Day and four new district meetings were organized.

A general tour of the province was made for the purpose of inspecting honey house sanitation. Most extracting plants were found to be satisfactory, however, several required alterations and painting before a high grade product could be produced.

Disease Control

Drugs remain at the forefront in controlling the two malignant bee diseases, American and European foulbrood. Sodium sulfathiazole (soluble power) was recommended for the control of American foulbrood (A.F.B.). Terramycin (TM 25) was recommended for control of European foulbrood (E.F.B.).

These drugs gave satisfactory control. Terramycin was tested for control of American foulbrood but results were not conclusive and further tests will be made in 1957.

This Branch supplied the drugs to beekeepers at cost.

	1955	1956
Amount of terramycin shipped	121 lbs.	198 lbs.
Amount of sulfa shipped	34 1/2 lbs.	36 2/3 lbs.

These amounts were sufficient for treating 11,400 colonies with terramycin and 18,000 colonies with sulfa.

The drugs were used for preventive control as well as curing infection. In cases of heavy infection diseased brood chambers were melted down and the remainder of the hive treated with drugs.

Eleven inspectors were appointed under the Bee Diseases Act. These inspectors work on a per diem basis, inspecting colonies in their own districts. With the use of drugs it has not been necessary to inspect all colonies, but rather to acquaint beekeepers with the symptoms of the disease. Where any disease exists recommendations have been to treat all colonies in the area to prevent its spread.

The incidence of disease has been steadily declining since drugs were first introduced.

Investigations

1. Tests were made in the spring of 1956 on the installation of package bees in a darkened building using a red light. Bees are not able to see the color red. It was found that installing bees in a darkened building using a red light was ideal for the following reasons:

(1) Building could be heated, avoiding chilling of queens which may reduce productivity.

(2) Bees and queen did not tend to fly, but settled down immediately to organizing cluster.

(3) Working conditions for beekeeper were ideal. This system proved satisfactory and has been particularly recommended during adverse weather conditions.

2. Further work was carried on at the Oliver Experimental Apiary in setting up practical equipment for extracting honey in small apiaries. A steam heating unit was installed for heating honey, and consisted of a small portable steam generator, a 5 foot length of jacketed copper pipe and a neoprene impeller pump. Preliminary trials found the temperature of the honey could be raised from 60° F. to 110°F. This greatly facilitates straining the honey. Poor straining is the prime cause of honey being degraded. The main cause of poor straining has been the difficulty in heating honey efficiently.

Further work is to be carried out in 1957 on straining materials.

3. In recent years bees have been receiving more and more due credit for legume and seed crops. Clearing of land and more extensive cultivation has removed the nesting sites of wild bees until we are largely dependent on honey bee populations for pollinators.

Mr. Peter Pankiw of the Dominion Experimental Station at Beaverlodge has been working on the value of honey bees as pollinators. While this work is being done by Mr. Pankiw, the responsibility of conveying the information to the public falls upon this office and a record of the work in this respect is deemed advisable.

Due to winter killing of alsike in the Beaverlodge region experiments were carried out on sweet clover in 1956. The following table shows the results of this year's tests:

Crop	Colonies of bees per acre	Hand picked seed yield sample	Farmers seed yield (combined)	% Florets with seed
Yellow Sweet Clover	1	705	500	Data not obtained
White Sweet Clover	1	1,704	1,300	94
*White Sweet Clover	Cages with bees	1,617	....	95
	Cages excluding bees	88	....	7

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*Large screen cages were placed at random throughout the fields, some with small colonies of bees placed inside, others with no bees.

The average population of bees counted on the clover was 3 bees per square yard or 12,000 per acre. The average wild bee population was from 1% to 5% of the honey bee population.

It is interesting and important to note that in the cages where honey bees were excluded only 7% of the florets set seed whereas where bees had access to the flowers about 95% of the florets set seed.

Statistics

STATISTICS

	*1955	**1956
Honey production ('000 lbs.)	4,611	4,277
Average net price to producer (cents)	16	16
Value of honey (dollars)	720,000	684,320
Value of beeswax (dollars)	31,500	32,000
No. of beekeepers	1,270	1,300
No. of hives	35,200	43,200
No. of hives per beekeeper	27.7	33.2
Average production per hive	131	99

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*Revised
**Preliminary

Report of the Live Stock Branch

W. H. T. MEAD, Live Stock Commissioner
W. C. Gordon, Live Stock Supervisor
A. J. Charnetski, Live Stock Supervisor
I. A. Coles, Supervisor of Feeder Associations
J. J. Kallal, Live Stock Fieldman
S. B. Clarke, Brand Recorder

Conditions in 1956 were similar to those in 1955 in the continuation of difficulty in the cash marketing of grain which accentuated the importance of live stock marketings as the main source of farm cash income. Live stock prices persisted in the weaker trend prevalent at the end of 1955 for about three months of 1956. Prices then strengthened and remained strong through the balance of the year. Total cattle marketings increased about twenty percent over the previous year, total hog marketings decreased about five percent, and total sheep and lamb marketings increased by about eight percent. The highlight of the 1956 live stock trade was the increase in Canadian demand for red meats that absorbed increased supplies of cattle, calves, hogs and lamb, at a time when exports of each, excepting dressed pork products, was declining from the previous years levels, and while so doing supported a rising market through most of the final nine months of the year.

Not only did excellent crop conditions assist in replenishing the feed supplies badly depleted by the long hard winter of 1955-56, but farmers and stockmen generally gathered more feed and salvaged more straw than has been evident in any year since the combine harvester came into general use.

CATTLE

In the central and northern part of the province most cattle came through the 1955-56 winter in only poor to fair condition. Shortages of hay and straw developed in a number of areas due to the long extreme winter.

Cattle in the southern part of the province came through the winter in good condition. Spring calf losses were slightly above normal.

Early spring pastures were poor in most areas due to poor growing conditions and considerable winter killing of legumes. However, as pastures improved in late spring and early summer, cattle condition improved and most cattle went into the winter of 1956-57 in fair to good condition.

Feed grain supplies are ample and of good quality.

Hay crops were short in many areas, but most farmers supplemented hay supplies with greenfeed and straw and appeared to have provided sufficient roughage. Mild weather, with the exception of one short cold spell in December, helped to preserve feed supplies.

Alberta's cattle population was estimated at 2,186,000 at June 1st which is an all time high.

Marketings at public stockyards and packing plants increased by 15% over 1955.

Finished cattle prices were low during the first part of the year, but improved in late spring and were satisfactory for the balance of the year.

In general, returns from pure bred sales in 1956 were somewhat below the level of prices in 1955 and reflected the shortage of cash in the hands of farmers.

At the twelfth annual Gallinger sale of Shorthorn bulls, thirty head averaged $943.00. Wm. Melnyk & Sons, Chipman, Alberta bought the top selling bull "Killearn Welfare 14th" for $4,000.00.

At the 56th Annual Calgary Bull Sale, 841 head averaged $485.45 compared to 785 head and an average of $603.85 in 1955.

At the Calgary Sale two Hereford bulls sold for the top price of $5,000.00. Reid F. Hall, Taber, sold the bull "Hall Proud Aggressor 63J"—440074—to Mayo Brothers, Innisfail, and Merry Acres Ranch, Priddis, sold the bull "Merry Acres Bright A Mixer 9J—420088—to E. V. Keith, Calgary. The Aberdeen Angus bull "Eileenmere of Old Hermitage 50"—138052—bred by Old Hermitage Farm, Edmonton, sold for $1,350.00 to J. Mantler, Coaldale. The Shorthorn bull "Rothmey Highness"—355040—bred by A. R. Cross, Midnapore, sold for $4,800.00 to T. G. Hamilton, Innisfail.

The fourth Annual Futurity Show sponsored by the Edmonton Exhibition Association was held in conjunction with the bull sale in March. C. J. Kallal & Sons, Tofield, won the interbreed grand championship with their Hereford bull "Royal Regent 15K". The female interbreed grand champion was a Hereford heifer "Lazy E. Domino Heiress 10J" exhibited by Shirley Enman, Wetaskiwin.

Pure bred breeders sold 2,569 beef bulls through thirteen consignment sales at Calgary, Edmonton, Lethbridge, Lacombe, Lloydminister, Stettler, Camrose, Olds, Fairview, Vermilion and Sangudo.

	No. Sold	Total Value	Av. Price
Hereford	1,795	$712,959.00	$397.00
Aberdeen Angus	329	119,806.00	364.00
Shorthorn	445	161,060.00	362.00

Estimated number of cattle and calves on Alberta farms at June 1st:

Year	No. of Head
1952	1,754,000
1953	1,910,000
1954	2,010,000
1955	2,085,000
1956	2,186,000

The official reports of the Canada Department of Agriculture show for Alberta the following cattle and calf marketings and total values for 1952 to 1956 (inclusive):

Year	No. of Cattle	Value	No. of Calves	Value
1952	377,032	71,116,000.00	82,223	6,506,000.00
1953	463,424	67,020,000.00	107,107	6,322,000.00
1954	552,296	74,245,151.00	123,732	6,133,395.00
1955	575,570	78,691,930.00	124,949	7,185,817.00
1956	712,975	89,647,975.00	146,259	7,655,870.00

CATTLE AND CALF SHIPMENTS OUT OF THE PROVINCE

	1952	1953	1954	1955	1956
British Columbia	78,570	95,811	92,560	86,478	85,511
Saskatchewan	1,800	1,865	1,223	1,051	1,201
Manitoba	8,942	16,833	20,558	19,079	29,241
Ontario	16,525	53,931	69,623	58,776	84,669
Quebec	15,122	35,231	43,301	34,941	37,406
Nova Scotia	60	....	29	....	83
New Brunswick	....	....	....	26	44
U.S.A.	2,896	15,779	34,954	12,459	1,123
Newfoundland	....	....	....	....	....
Prince Edward Island	....	....	40	....	....
	153,915	219,450	262,288	212,810	239,278

THE CATTLE IMPROVEMENT POLICY

The following regulations applied to this Policy in 1956.

1. Any bona-fide farmer, except a pure bred breeder was eligible to apply for assistance in the purchase of a bull.
2. A total of two bulls may be obtained calculated from inauguration in 1938.
3. At least two years must elapse between purchase of a first and second bull.
4. Assistance is 10% of the purchase price to a maximum of fifty dollars except in pure bred sire areas where assistance is 15% to a maximum of seventy-five dollars.
5. (a) An applicant may apply to have the Department purchase a bull of stipulated breed, age and price, in which case, the bull is purchased and freight is prepaid to the applicant's nearest shipping point.
   (b) An applicant may apply on a specific bull from a specific breeder, in which case, the bull is appraised on the breeder's premises. Freight is not paid by the Department on this type of application.

Five hundred and five bulls were placed in 1956. These were by breeds: 300 Hereford, 124 Shorthorn, 64 Aberdeen Angus, 3 Red Poll, 12 Holstein and 2 Ayrshire.

Three hundred and eight bulls were appraised at applicant's requests on breeders' premises. One hundred and ninety-seven were selected by the Department and shipped prepaid to applicants. Of this number, one hundred and fifty-five were purchased at bull sales and forty-two were purchased direct from breeders.

Including those purchased at the Edmonton bull sale, approximately eighty-five bulls were handled through the Live Stock Depot at the Exhibition Grounds.

The following table shows the placement of bulls for the past five years.

1952	526
1953	677
1954	630
1955	558
1956	505

LIVE STOCK LISTING BUREAU

This Policy makes provision for placing pure bred breeding stock, male or female, with pure bred breeders and others not eligible to come under the Cattle Improvement Policy. There is no financial assistance on purchase price or freight prepayment on such placements. During 1956 three bulls and three females were placed. In addition, numerous persons were directed to a source of supply. Since most of such persons made direct purchase from the breeder no record of numbers is available.

Messrs. Kallal and Gordon visited 408 breeders premises and appraised approximately 1,400 bulls in connection with the Cattle Improvement Policy. Forty-six farm calls were made in connection with selection of the 1956 Live Stock Exhibit to the Toronto Royal Winter Fair. They presented part of the program at ten Short Courses and meetings. They also judged at five Summer Fairs, fifteen Beef Club Achievement Days at which there were a total of thirty-four clubs, and judged one fall female sale.

The Live Stock Commissioner attended two meetings at Regina during the year, relative to establishing a Federal-Provincial Beef Cattle Performance Testing Program. Preliminary work was conducted in Alberta to assess the demand for such a program in the Province. The organizations approached included the three main beef breed Associations and the Western Stock Growers Association. The reaction to two Associations is favorable to setting up such a plan. Official word was not received from the other two but it is anticipated that such a Testing Plan may be outlined and put into effect during the coming year.

DAIRY HEIFER CALF POLICY

This policy is designed to assist 4H Dairy Clubs to obtain suitable dairy heifer calves for project work. It is based on gathering suitable calves at an early age from the Edmonton milk shed area and transporting them to clubs in areas where such calves are not readily available.

Each club member pays the purchase price of $32.50 for his or her calf. Each club orders the number of calves required. This Branch then arranges to select heifer calves from five to ten days old from the Edmonton area, assemble them for shipment, milk feed them when necessary, and ship either by truck or by express prepaid.

This policy has made possible the successful operation of dairy clubs in many districts where dairy heifers are in short supply and not available for club work. It has also been responsible for the establishment of many good dairy herds by providing seed stock from an area of surplus supply.

During 1956 two hundred and fifty-five carefully selected grade holstein heifer calves were assembled and shipped to twenty-two 4H clubs located in the following general areas: Mayerthorpe, Eckville to Rocky Mountain House, Ponoka to Bluffton, Lacombe to Rimbey, Olds, Three Hills, Ryley, Erskine to Botha, New Norway to Donalda, Carbon, Rosalind and Elnora. This compared favorably to the 233 calves distributed in the previous year.

The supply of calves was adequate and the quality is much improved, largely due to the general application of artificial insemination in the Edmonton area since December 1953.

ARTIFICIAL INSEMINATION

At December 31st, artificial breeding service was discontinued from the School of Agriculture breeding centre at Olds. All technicians, breeders and farmers who had been connected with this service were advised earlier in the year that new services from the breeding centre would be discontinued at October 31st and return services would be carried on until December 31st.

Service from the Olds Breeding Centre was applied to 334 pure bred and 270 grade cows for a total of 604 first services up to October 31st.

Establishment of the breeding centre in 1943, and the start of artificial breeding service in early 1944 was done by this Department and served as the introduction of what at that time was a revolutionary new method of breeding dairy cattle. Several factors have contributed to the necessity of bringing this program to a close and making a new approach to artificial breeding in this Province.

1. Operation of the Olds breeding centre had acquainted the general farm public with the advantages and limitations of artificial insemination.

2. The limited number of really outstanding bulls and the expense of operating a bull stud for limited volume of breeding service pointed up the advisability of looking to breeding centres in areas of greater dairy cattle concentration for a source of semen.

3. Development of the frozen semen technique.

4. Increase in numbers of dairy cattle in areas other than the city milk sheds. This has been influenced greatly by 4H dairy clubs and the dairy calf policy.

5. Improved road conditions permitting access to most farms the year around.

6. Established breeding units at Edmonton, Lacombe, Ryley, Lethbridge and Olds, all obtaining semen from Milner, British Columbia or Guelph, Ontario, greatly reduced the need for this Department to operate a breeding centre for service to pure bred breeders.

During the period from February 1st, 1944 to December 31, 1956, 11,460 cows, mostly of the Holstein breed, were inseminated with first service from the Olds Breeding Centre. These included service to 4,622 registered Holstein cows and 6,838 grade Holsteins and Shorthorns. During this period the breeding of pure bred dairy cattle was enhanced greatly not only by the direct influence of artificial breeding but indirectly by the establishment of more pure bred herds, by the rapid extension of R.O.P. testing in existing herds and by wide distribution of sons of the outstanding bulls used at Olds, into commercial herds.

The Holstein Friesian bulls used in the program of service to pure bred breeders were puchased in the following order. Hays Thirty Nine Steps; Glenafton Rag Apple Architect; Sovereign Masterpiece; Glenafton Clipper; Glenafton Escort; Rockwood Anthony Romonarch and Acme Silver Chevron. The outstanding individual of this group, judged from the performance rating of daughters from production and type analysis information available at time of writing is Glenafton Rag Apple Architect. Sovereign

"Glenafton Rag Apple Architect"

Service from this outstanding bull was used on approximately 700 pure bred Holstein cows in approximately 100 different Alberta herds between 1944 and 1949.

Masterpiece service was in greatest demand. This is indicated by the fact that over 1,700 registered cows were bred to his service from 1947 to 1954.

Co-operative A.I. Associations using semen from Holstein, Jersey, Guernsey and Ayrshire bulls, shipped three to four times weekly from Milner, British Columbia, operated at Edmonton, Ryley and Lethbridge. Privately operated service with semen from the same source was offered at Wetaskiwin, Westlock, Calgary and Stettler.

New co-operative units, in addition to the one at Lacombe, using frozen semen from all of our common cattle breeds obtained from the Ontario Association of Artificial Breeders in shipments received about one a month are now operating or organized and ready for operation in Olds, Acme, Camrose and Stettler. It is estimated that approximately 10,000 cows were bred artificially in Alberta in 1956.

This Branch has assisted in the organization of new units and maintained close liaison with those in operation. Provision has been made to gather and receive all current information on bulls in service and make this information available to all unit bull committees.

As in the previous year the Department contracted to purchase semen for twelve months for each association that organized on a co-operative basis, and sufficient cows signed up in a limited area to indicate future development of a self-sufficient unit, and hire an approved technician. The unit at Olds qualified for this assistance and the units at Acme, Camrose and Stettler organized in December, are expected to qualify.

Mr. H. P. Cross who has held the position of technician for this Department at the Olds Breeding Centre since July 1952, suffered a heart attack in May but recovered sufficiently to accept a position on October 1st as Assistant Laboratory Technician at the Veterinary Laboratory, Edmonton.

LIVE STOCK FEEDER ASSOCIATIONS

Twenty-seven feeder associations operated under The Feeder Associations Guarantee Act in the 1955-56 season. These associations had 724 active members who fed 17,794 cattle and 12,874 sheep, utilizing a credit of $1,651,635.24.

Most lamb feeders who marketed early in the year received only a small return on their feeding operations. Late spring marketings were more profitable.

Early marketings by cattle feeders were not profitable, but those feeders who marketed finished cattle in the late spring and summer months received good returns on their feeding operations.

All loans under the 1955-56 guarantees have been repaid.

As a result of the Wainwright-Edgerton-Chauvin Feeders' Association Limited going into liquidation; Order-in-Council 1193/56 provided for the Provincial Treasurer to implement guarantees under Orders-in-Council 1239/51 and 1191/52 by payment of $7,264.29 to the Treasury Branch, Wainwright. This payment as at September 7th, 1956, represented the unpaid balance of borrowings authorized by Orders-in-Council 1239/51 and 1191/52 which resulted from losses sustained by the Wainwright-Edgerton-Chauvin Feeders' Association Limited from their 1951-52 and 1952-53 operations.

Outstanding loans under the 1951-52 guarantees, resulting from market conditions following the diagnosis of Foot and Mouth disease in Saskatchewan in 1952, have necessitated continuation of a policy whereby associations with outstanding loans under the 1951-52 guarantees, could continue to operate under certain conditions and therefore would be able to reduce these outstanding loans by continued feeding operations.

Loans outstanding at Banks and Treasury Branches as at September 1st, 1956 under the 1951-52 guarantees totalled $46,088.87 compared to $51,481.14 as at September 1st, 1955.

FEEDER ASSOCIATION OPERATIONS 1955-56

Association	No. Members	Cattle	Sheep	Amount of Credit
Andrew-Willingdon	11	225	....	$ 19,995.32
Battle River	46	1,263	....	100,032.93
Big Valley	15	304	....	27,355.61
Bowden	18	461	....	42,907.56
Bow Valley	36	971	1,267	91,518.38
Cardston	18	542	....	43,833.28
Carstairs	23	700	308	65,505.76
Central Alberta	20	440	322	39,148.31
Eagle Hill	36	1,068	265	91,629.91
East Bow Valley	42	1,088	1,533	98,445.47
East Central	34	1,028	51	96,677.56
East Olds	22	594	....	62,089.65
Garden City	12	330	1,809	46,467.49
Horse Shoe Lake	15	315	....	31,859.40
Innisfail	24	582	....	45,759.55
Kneehill Valley	44	1,010	....	101,528.77
Mannville	39	969	....	64,505.35
Marwayne	38	1,000	....	86,257.61
Okotoks	23	608	....	52,531.69
Ponoka	44	1,004	....	93,388.51
Raven	19	385	....	32,180.17
Raymond-Magrath	19	526	660	51,199.20
South Slope	38	788	1,975	93,460.31
Taber	13	276	1,024	39,244.44
Tilley-Rolling Hills	46	835	3,660	99,375.65
Vermilion	27	437	....	32,140.07
Westlock	2	45	....	2,597.29
	724	17,794	12,874	$1,651,635.24

FEEDER ASSOCIATION OPERATIONS 1938-39 TO 1955-56

Feeding Season	No. of Association	Members	Cattle	Sheep	Credit
1938-39	6	180	9,239	19,187	$ 368,421.45
1939-40	12	351	16,248	20,287	775,125.21
1940-41	12	451	17,056	37,863	954,489.50
1941-42	15	408	14,945	41,157	1,117,186.08
1942-43	17	437	13,279	31,452	1,092,768.43
1943-44	16	395	11,639	53,768	1,191,641.50
1944-45	15	257	7,968	46,537	834,347,71
1945-46	15	319	9,556	60,845	1,098,291.77
1946-47	13	245	7,057	37,036	729,447.90
1947-48	13	239	8,088	26,241	859,922.29
1948-49	13	212	4,784	13,020	837,732.21
1949-50	10	237	4,978	8,948	622,759.22
1950-51	11	291	5,615	4,381	917,400.70
1951-52	26	642	11,236	6,750	2,328,596.59
1952-53	25	447	9,704	7,068	1,178,834.14
1953-54	23	428	9,538	8,250	919,327.06
1954-55	24	559	13,307	10,434	1,232,701.01
1955-56	27	724	17,794	12,874	1,651,635.24
			192,031	446,098	$18,710,738.00

SWINE

Swine producers in Alberta had a fairly good year in 1956. Prices, basis grade A fluctuated from a low of $19.35 per cwt. dressed in January to a high of $29.75 per cwt. in November. Hog marketing in Alberta decreased by approximately five percent. Carcass quality improved by about two percent in the A grade, but C grades remained at nearly fifteen percent of total marketings.

Export of pork products from Canada to United States increased over the 1955 exports by thirteen percent totalling over 60,000,000 pounds. Less than 2,000 live hogs were exported in the same time. This situation no doubt contributed considerably towards stronger hog prices in Canada for the greater part of the year; the average being, Edmonton yards, $24.65 per cwt. dressed grade "A" basis.

The wider off-grade discount on market hogs is slowly creating greater interest in Swine Improvement work. Demand for high quality boars far exceeds available supply. Alberta has a need for more pure bred swine breeders producing the type of breeding stock capable of making consistently high scores under Advanced Registry testing.

Off-grade discounts established in April 1954 remain as follows:

Grade A	Basic price
Grade B1	$1.00/cwt. from basic
Grade B2	1.25/cwt. from basic
Grade B3	1.60/cwt. from basic
Grade C	3.00/cwt. from basic
Grade Heavy	3.25/cwt. from basic
Grade Extra Heavy	4.75/cwt. from basic

Pure bred breeders enjoyed a relatively good price year. Commercial hog producers showed greater selective ability than in former years. Boars and sows with high shoulders, good length, good deep rear flanks and full hams sold well above average sale prices.

Spring and Fall Swine Sales at Calgary and at Edmonton now appear to be established institutions. Also, regional swine sales of quality selected and veterinary inspected breeding stock are gaining in popularity. Swine Improvement Policy "B", which provides for payment of bonus on boars to eligible buyers, is a practical encouragement to these sales.

Report on swine sales is being divided into two parts (a) Calgary and Edmonton Sale, (b) Regional Sales sponsored by Agricultural Societies or Live Stock Associations. These were held at Lacombe, Camrose, Olds, Sangudo, St. Paul and Vermilion. This should provide interesting price comparison for sales groupings heretofore mentioned.

PRICE AVERAGES COVERING ALL ALBERTA SALES IN 1955-56

	1955		1956	
	No.	Av. Price	No.	Av. Price
Yorkshire Boars	387	$87.67	361	$ 84.38
Yorkshire Sows	537	86.88	502	79.62
Tamworth Boars	63	83.09	77	78.44
Tamworth Sows	68	72.63	63	80.30
Berkshire Boars	....	....	1	70.00
Berkshire Sows	....	....	3	87.50
Landrace Boars	....	....	8	203.75
Total and Average	1,055	$86.02	1,015	$ 82.26

PRICE AVERAGE COVERING CALGARY AND EDMONTON SALES IN 1956

	No.	Av. Price
Yorkshire Boars	227	$ 87.88
Yorkshire Sows	420	79.75
Tamworth Boars	64	78.52
Tamworth Sows	60	80.71
Berkshire Boars	1	70.00
Berkshire Sows	3	87.50
Total and Average	775	$ 82.12

PRICE AVERAGE FOR REGIONAL SALES ONLY 1956

	No.	Av. Price
Yorkshire Boars	134	$ 78.46
Yorkshire Sows	82	78.96
Tamworth Boars	13	78.07
Tamworth Sows	3	72.50
Landrace Boars	8	203.75
Total and Average	240	$ 82.72

Assistance from this office was given in forming several 4H Swine Clubs, and one Junior Farmers Swine Club. The interest shown by this latter club indicates strong possibilities of such clubs becoming instrumental in swine improvement work in the area in which they are located. The activity is based on the use of approved feeding practices; replacement of undersirable breeding stock with top quality gilts and the use of Advanced Registry sires.

Only one swine Field Day was held this year. Attendance and interest was very good. Type of breeding stock, a judging contest and discussion of feeding and management comprized the program.

A province wide organization known as the Alberta Advanced Registry Swine Breeders Association was organized under the Societies Act.

SWINE IMPROVEMENT POLICIES

In 1955 the Swine Improvement Policy had undergone a major revision resulting in the adoption of Policy "A" and Policy "B" for encouraging the wider distribution of boars, and a complete new policy to encourage larger participation by breeders in the testing of breeding stock under the Federal Advance Registry Policy. Details of these changes were fully reported in the 1955 Annual Report. Briefly, however, the policies work as follows. Swine Improvement Policy "A" provides for applications for boars being submitted direct to the Live Stock Branch. Boars are supplied at cost less ten dollars bonus on boars costing over fifty dollars, and five dollars on boars costing fifty dollars or less. Express charges are prepaid on the boar to applicants nearest express office. Policy "B" provides for payment of the above bonus only to those who are present at the sale and personally purchase a boar. Only one boar in each two year period may be obtained under these policies. In addition, to the above, a Live Stock Listing Bureau is operated in the branch, under which breeding stock may be obtained without the privilege of prepayment of shipping charges or the bonus.

The Advance Registry Swine Assistance Policy provides payment of bonus on sows which qualify under the A.R. Test. The basis of bonus is:

(a) Sows scoring 75 to 80—bonused at $30.00

(b) Sows scoring 81 to 85—bonused at $40.00

(c) Sows scoring 86 and over—bonused at $50.00

The sow owner must personally apply for the bonus, however before it can be paid he must agree to swine herd inspection by a Provincial Veterinarian for freedom from infectious diseases.

Statistical tables given hereunder cover Policy "A", "B", Live Stock Listing Bureau, and the Advance Registry Swine Assistance Policy.

BOARS PLACED UNDER SWINE IMPROVEMENT POLICY "A" AND L.L.B.

	Live Stock Listing		Impro. Policy	Total	Bonus
	Gilts	Boars	Boars	Boars	Paid
1951	5	5	129	134	$
1952	15	6	135	141	
1953	6	16	107	123	
1954	16	24	136	160	
1955 (to July 1st only)	12	14	65	79	
1955 (after July 1st)	15	0	95	95	870.00
1956	9	13	185	*198	1,645.00

*This total includes 17 Tamworth boars.

BONUS PAYMENTS ON POLICY "B" BOARS AT ALL ELIGIBLE SWINE SALES

	No. @ $5.00	No. @ $10.00	Total Boars	Total Bonus
1955	13	199	212	$2,055.00
1956	10	258	268	2,630.00

THE ADVANCE REGISTRY SWINE ASSISTANCE POLICY

	Breed	Bonus Paid Out $30.00	$40.00	$50.00	Total No. Sows	Total Paid Out
1955	Yorkshire	10	3	7	20	$ 770.00
1956	Yorkshire	20	24	5	49	1,810.00

ESTIMATED NUMBER OF SWINE ON FARMS IN ALBERTA AT JUNE 1ST

1952	1,170,000
1953	1,180,000
1954	1,408,000
1955	1,620,000
1956	1,455,000

ALBERTA HOG GRADING FOR YEARS 1952 TO 1956 INCLUSIVE

		1952 %	1953 %	1954 %	1955 %	1956 %
Grade A		21.43	19.92	18.22	18.90	20.2
	B1	42.86	44.70	44.26	42.77	41.2
Grade B	B2	3.52	4.00	3.80	4.47	5.0
	B3	7.87	6.80	6.31	5.58	5.2
Grade C		8.81	11.90	13.88	15.01	14.5
Light		1.18	1.20	1.25	2.01	2.3
Grade D		0.48	0.05	0.56	0.71	0.8
Heavy		3.74	3.00	2.79	2.53	2.1
Extra Heavy		3.32	2.40	2.26	1.94	2.4
Injured		0.04	....	0.04	0.03	0.03
Rgl.		0.53	0.05	0.54	0.53	0.5
Stags		0.41	0.05	0.47	0.47	0.6
Sows		5.81	4.60	5.62	5.05	5.2

SUMMARY OF ALBERTA HOG CARCASSES GRADED AT ALL INSPECTED PLANTS 1952-1956

Year	"A"	"B1"	"B2"	"B3"	"C"	"D"	Light	Heavy	Exrta Heavy	Injured	Ridg-lings	Stags	Sows	Total No.	Total Sales Value
1952	291,912	583,855	47,949	107,172	119,983	6,547	16,031	50,904	45,262	522	7,248	5,570	79,187	1,362,142	$52,674,108.00
1953	285,359	640,296	56,566	97,929	169,898	7,298	17,075	43,138	34,138	257	7,728	6,821	66,066	1,432,438	66,659,142.00
1954	266,366	647,052	55,523	92,205	202,913	8,151	18,217	40,754	33,003	544	7,882	6,950	82,210	1,461,770	66,829,792.00
1955	318,653	721,081	75,311	94,125	253,021	11,950	33,875	42,588	32,758	600	8,919	7,856	85,150	1,685,887	60,324,854.00
1956	317,789	647,082	77,653	82,241	228,487	12,434	36,715	38,218	32,797	404	7,976	8,615	81,425	1,571,929	59,025,934.00

SHEEP

Commercial sheepmen had a fairly good year. Lamb crops were generally good to above average. Losses from predators were low, no doubt due to a very active control policy followed throughout the year.

Sheep expansion showed increase over 1955. Farmers in the extreme western frost-zone areas have stepped up sheep production. A group of these, in the Rocky Mountain House area organized by the District Agriculturist, shipped to the Union Packing Plant at Calgary, groups of ten lambs each for special kill and grading by the Federal graders. Valuable discussions took place as various carcasses were graded and discussed. It became evident that the different dual purpose breeds of white face sheep are capable of yielding very acceptable lamb carcasses.

Lamb prices on Edmonton yards showed more strength than in 1955. A low average of $17.00 was recorded during the first half of January. Spring market lambs sold at a high average of $28.40 per cwt. for the week ending June 9th. The average price in 1956 for good lambs was $19.15 per cwt. The average for good ewes was $8.27 per cwt.

Lambs and sheep finishing in feedlots continues popular and profitable. Demand for feeder lambs far exceeds Alberta lamb production, consequently prices for feeder lambs are very strong during the fall. Brooks and Lethbridge districts continue to be the largest lamb feeding areas in the Province. There were approximately 70,000 lambs and 6,000 ewes in feedlots at the end of the year. Feeder lambs prices ranged from $15.50 to $17.25 and feeder ewes form $3.00 to $5.00 per head. Out of the province sheep and lamb movement into Alberta feedlots is estimated at 14,000 head.

Sheep Shearing School in Action

Wool clip was fairly good this year, but slightly down from last year. Better care of sheep flocks would reflect in higher wool yields. Alberta averaged 7.8 pounds of wool per head, Canada averaged 7.3 pounds per head. Total production was approximately 1,849,000 pounds of wool. Total for Canada was 6,372,000 pounds. Alberta wool prices averaged about 36 cents per pound for domestic wool and 37 cents for range wool, compared to 34 and 36 cents respectively in 1955.

Abee and Okotoks 4H Sheep Clubs again had a successful year. Rams loaned by this Branch to clubs in question show progressive quality improvement and uniform improvement in lambs exhibited at Achievement Days.

Fall sheep sales at Calgary and Edmonton were only fair from the standpoint of prices received and quality of sheep offered. Quality of rams at Edmonton appeared higher than a year ago. Demand for grade ewes was extremely keen at Calgary. Price averages for various breeds at both sales are given hereunder.

SUMMARY OF PURE BRED SHEEP SALES AT CALGARY AND EDMONTON

	1955		1956	
	No. Sold	Av. Price	No. Sold	Av. Price
Suffolk Rams	136	$ 73.69	160	$ 56.89
Sufflok Ewes	150	55.91	95	40.07
Hampshire Rams	52	56.83	41	44.57
Hampshire Ewes	18	31.94	43	25.88
Cheviot Rams	15	51.50	7	39.64
Cheviot Ewes	16	26.22	13	22.31
N.C. Cheviot Rams	3	115.00	41	65.43
N.C. Cheviot Ewes	4	90.00	4	80.00
Corriedale Rams	21	71.67	25	49.00
Corriedale Ewes	6	43.75	23	34.02
Southdown Rams	4	49.25	6	51.67
Southdown Ewes	13	25.23	4	25.00
Oxford Rams	6	33.33	6	44.58
Oxford Ewes	....	....	3	25.00
Total Sheep & Average	444	$ 59.30	471	$ 47.41
Grade Ewes	107	16.80	166	16.69

Sheep Shearing Schools gained in popularity. This year seventeen sheep shearing schools were held at the following points: Greencourt, Onoway, Ft. Saskatchewan, Tofield, Bluffton, Chedderville, Sundre, Okotoks, Lethbridge, Hays, Grassy Lake, Cardston, Pincher Creek, Cherry Grove, Elk Point, Caslan and Grimshaw.

Basically these are work schools where all sheepmen in attendance take part in hand and power shearing, trimming, packing wool, treating, spraying and other management practices. As a result of these schools many men who had not handled sheep are now becoming proficient in the art of sheep management. A new type of portable wool bagging platform, designed and constructed to carry to these demonstrations proved to be efficient and well accepted by sheepmen.

As in previous years Dominion Production Service and The Edmonton branch of the Canadian Co-operative Wool Growers cooperated with the Department in sponsoring these schools. Demonstration personnel was the same as last year.

A great deal of time was required for sheep and swine meetings in all parts of the Province. Meetings took the form of discussion on practical management and breeding problems and in all cases slides and films were used to more clearly illustrate the subject matter. Twenty lectures were given during the winter of 1956 at Special Indian Agricultural Schools, totalling attendance of 568 men.

The following table indicates number of meetings and field days held from 1952 to 1956 inclusive:

Year	No. of Meetings	Total Attendance	Average Attendance	No. Farm & D.A. Visits
1952	35	3,173	90	295
1953	40	1,826	45	246
1954	92	4,413	48	214
1955	58	3,000	52	219
1956*	91	4,041	44	330

*Includes 17 Sheep Shearing Schools and 1 Swine Field Day.

THE SHEEP IMPROVEMENT POLICY

The Sheep Improvement Policy operated as in previous years. Sheepmen not able to attend sheep sales may submit applications for rams of any recognized breeds raised in Alberta. Either one or two rams may be obtained under the policy in each two year period. The policy provides for prepayment of shipping charges only.

The policy also provides for placement of ewes and of rams under L.L.B. to those who do not qualify under the regular improvement policy.

The following table shows ram and ewe placement for 1952 to 1956 inclusive:

	Live Stock Listing Bureau		Impr. Policy	Total
	Ewes	Rams	Rams	Rams
1952	36	2	38	40
1953	33	2	28	30
1954	4	5	35	40
1955	164 (grade)	7	34	41
1956	9	......	21	21

Of the rams, 11 were Suffolk, 2 Hampshire, 4 Cheviot, 1 Columbia, 1 Romnelet, and 2 Corriedale.

ESTIMATED NO. OF SHEEP ON ALBERTA FARMS—JUNE 1ST SURVEY

1952	387,000
1953	432,000
1954	440,000
1955	460,000
1956	455,000

ALBERTA SHEEP AND LAMB MARKETING

	LAMBS				SHEEP	
	Good	Common	Bucks	Feeders	Good	Common
1953	81,108	10,287	1,813	5,994	5,106	2,050
1954	91,071	11,102	622	8,646	3,436	2,536
1955	110,037	12,535	1,278	10,138	4,015	2,376
1956	125,471	11,699	1,342	8,720	3,545	2,679

ALBERTA COMMERCIAL SHEEP MARKETING AND VALUES

Year	Stock Yards	Plants	Direct Export	To Country Points	Total	Value
1952	43,749	84,862	87	4,388	133,086	$2,432,392.00
1953	33,101	73,257	822	5,343	112,523	1,833,850.00
1954	37,230	80,183	46	4,766	122,225	1,800,646.00
1955	44,102	96,277	4,833	2,138	147,350	2,107,026.00
1956	43,740	109,716	1,461	3,649	158,566	2,300,517.00

EXPORT OF PURE BRED SHEEP FROM ALBERTA TO U.S.A.

Year	No. of Head
1952	44
1953	316
1954	192
1955	452
1956	104

CANADIAN EXPORT OF SHEEP AND LAMBS

	To United States		Total Export	
Year	No.	Value	No.	Value
1952	357	$ 14,323	611	$ 20,140
1953	2,004	140,267	2,347	145,910
1954	1,798	81,901	2,402	91,732
1955	8,537	232,942	8,874	239,263
1956	4,134	138,847	5,090	201,476

CANADIAN EXPORT OF MUTTON AND LAMB

	To United States		Total Export	
	No. of lbs.	Value	No. of lbs.	Value
1952	11,100	$ 4,527	46,300	$ 30,307
1953	2,900	879	51,900	28,664
1954	23,100	9,491	53,000	28,225
1955	238,100	94,120	272,600	110,553
1956	2,200	916	45,000	24,840

CANADIAN IMPORT OF MUTTON AND LAMB

(Pounds)

Imported From:	1952	1953	1954	1955	1956
United Kingdom	2,270	5,900	5,356	5,544	3,080
United States	86,843	1,796,700	651,830	273,552	208,697
Australia	980,281	989,737	2,759,391	3,374,279	3,380,664
New Zealand	1,422,431	1,952,752	3,907,796	7,176,008	5,980,151
Other Countries	169,524	....	....	....	....
	2,661,349	4,745,089	7,324,373	10,829,383	9,572,592

HORSES

Shortage of supply continued to create a strong demand for any slaughter horses available. Prices ranged about the same as in 1955 at four to five cents per pound. Increased interest in horse breeding resulted from the extremely low ebb reached and the deep snow during the winter of 1955-56. There were a few sales of stallions and one co-operative stallion club was organized in the Myrnam district and a Percheron stallion purchased from Jonathon Fox of Lloydminster to service the club.

Approximately 15,700 horses were inspected by all brand inspectors. About 15,000 of these went direct to killing plants. The Alberta horse population was estimated at June 1st to be 162,000 head as compared to 176,000 head the previous year, a reduction of about eight percent.

TORONTO ROYAL WINTER FAIR

The 1956 Toronto Royal Winter Fair was held November 9th to 17th. Eighteen carloads of Alberta live stock were approved by the Breed Association Selectors to make up the Alberta exhibit. The shipment was made via Canadian National Railways leaving Calgary and Edmonton, October 30th.

The 1956 Exhibit comprised 24 horses, 45 beef breeding cattle, 102 market cattle, 28 dairy cattle, 4 dual purpose cattle, 94 sheep and 19 hogs.

Freight costs were borne seventy-five percent by the Dominion Department of Agriculture and twenty-five percent by the Alberta Department. The Alberta Department of Agriculture paid cost of selection, cost of decking railway cars for the trip and feed costs in connection with the shipment.

The 1956 exhibit did not win as many grand and reserve grand championships as some previous exhibits but did take as many first and second prize ribbons as any previous shipment.

The exhibit was particularly strong in the market steer classes both singles and groups and in Suffolk and Corriedale sheep.

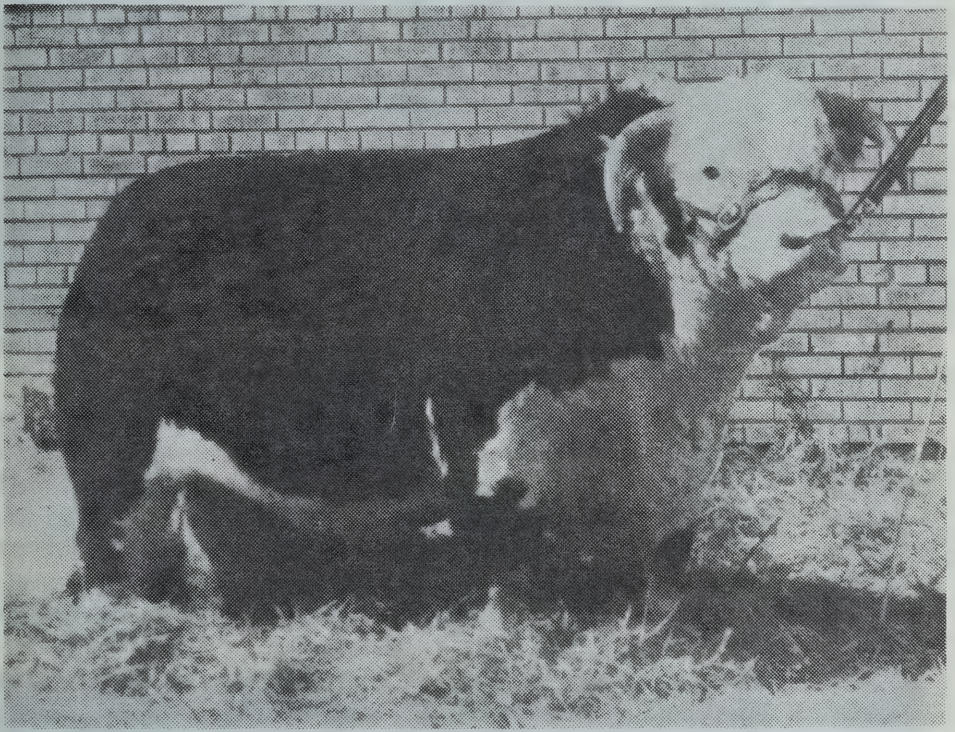
The following table shows the prizes won by Alberta Exhibitors:

	Horses	Cattle	Sheep	Swine	Total
Grand Champion	1	2	......	......	3
Reserve Grand Champion	1	1	......	......	2
Senior Champion	1	3	......	......	4
Reserve Senior Champion	1	......	......	......	1
Junior Champion	......	2	......	2	4
Reserve Junior Champion	1	2	......	......	3
Championships	......	5	5	......	10
Reserve Championships	......	2	2	......	4
1st Prize	5	24	14	3	46
2nd Prize	2	17	10	6	35
3rd Prize	7	12	8	1	28
Other Prizes	9	55	49	9	122
	28	125	88	21	262

The following were the outstanding achievements by Alberta Exhibitors at the 1956 Royal Agricultural Winter Fair.

Richards Brothers, Red Deer, exhibited the Grand Champion Ayrshire bull, also the Junior and Reserve Junior Champion bulls.

J. A. Paul, Okotoks, exhibited the Grand Champion Hereford bull and won the Premier Breeder and Premier Exhibitor awards for the second successive year.



**1956 Tornoto Grand Champion Hereford bull,
bred and exhibited by J. A. Paul, Okotoks.**

Hardy E. Salter, Calgary, exhibited the Grand Champion Percheron stallion, W. S. Herron, Calgary, the Reserve Grand Champion Palomino stallion and Lacombe Experimental Station, the Reserve Junior Champion Clydesdale stallion. W. V. Fleming, Red Deer, won the shield for the best Canadian bred Clydesdale mare.

McIntyre Ranching Company Limited, Lethbridge, were exhibitors of the Reserve Grand Champion steer with the steer that was Champion in the Purebred Hereford steer division. Other winners in single steer competition were Lloyd Halstead, Carbon, Champion Shorthorn steer, McIntyre Ranching Company Limited, Champion Grade or Cross-bred steer and E. F. Noad, Pincher Creek, Reserve Champion Hereford steer.

The group classes of steers from Alberta were outstanding. McIntyre Ranching Company Limited showed the Champion pen of five steers. Byers Flour Mills, Camrose, exhibited the champion car load lot and D. R. Buchanan, Pincher Creek, the Reserve Champion car load lot.

1956 Toronto Grand Champion load of steers;
bred by W. E. Hills, Camrose, fed and exhibited by Byers Flours Mills, Camrose.

C. R. Stoneman, Drumheller, showed the Reserve Champion Suffolk ram and Dalbo Realties, Kevisville, the Champion Suffolk ewe. W. J. Hunter, Calgary was exhibitor of the Champion North Country Cheviot ram. In the Corriedale breed, John Wilson Jr., Innisfail, won the ribbons for both the ewe and ram Championships.

Harry Hays, Calgary, exhibited the Junior Champion Yorkshire boar and W. A. Greenway & Sons, Acme, the Junior Champion Tamworth sow.

1956 Toronto First Prize Holstein
Breeders Herd, exhibited by Pickard & Clark, Carstairs

THE STOCK INSPECTION ACT

Further decentralization of cattle markets by establishment of additional auctions, both co-operative and private at country points, necessitated engaging Deputy Brand Inspectors at Brooks, Provost, Ponoka and Stettler in addition to Deputies previously situated at Pincher Creek and Red Deer. Increased marketings and movement of feeder cattle coupled with servicing a number of country auctions kept the permanent staffs at Edmonton, Calgary, Lethbridge and Lloydminister extremely busy. One addition was made to the Edmonton staff. Inspection in the Medicine Hat area was conducted by a qualified member of the R.C.M. Police.

All Inspectors, Deputy Inspectors and R.C.M. Police inspected approximately 450 sales held at points other than public stockyards and packing plants. A total of 977,330 head of stock were ispected at all markets, compared to 849,903 head the previous year for an increase of fifteen percent.

Inspection of cattle going both to feedlots, cover crop and pasture on which buyers were given brand clearance totaled 198,487 head for an increase of almost forty percent over the previous year.

The total of all inspections in and out of markets covered 1,175,817 head of stock, an increase of sixteen percent over all inspections in 1955.

The number of stock held up by inspectors for further investigation of ownership remained about the same as 1955 at approximately 1,000 head. Thirty-four separate cases were forwarded to the Live Stock Commissioner's office for final determination of ownership.

The reciprocal agreement whereby Saskatchewan inspectors inspect all Alberta cattle at St. Boniface and Alberta inspectors inspect all Saskatchewan cattle at Lloydminster was continued.

Excellent co-operation was received at all times by members of the R.C.M. Police.

Reports of disappearance and suspected theft of live stock was fully equal to previous years and indicates the need for continued vigilance by all protection agencies.

During the year visits by one inspector were made to most butcher shops and slaughter houses checking monthly reports required by these businesses. A total of three-hundred and ten butcher and hide dealer licenses were issued during the year. The number of licensed butchers has tended to decrease in recent years as more country butchers confine their trade to meat from Federally inspected plants.

LIVE STOCK AUCTIONS OTHER THAN PUBLIC STOCKYARDS

Until very recently auction selling of stock other than at Public Yards was confined to co-operative selling agencies engaged in selling cattle for their members. These sales have been concentrated in ranch areas and confined to the fall of the year. They have been completely brand inspected for a number of years. During 1956, 41,263 head of cattle and calves were inspected through these sales. This figure represents a thirty-one percent increase over the 30,649 head inspected in 1955.

Rapid expansion of auction facilities operated by private concerns has taken place in the mixed farming areas in recent years. These auctions usually operate weekly the year round. They handle all classes of live stock. At January 1st, 1956 these auctions came under regulations pursuant to the Live Stock and Live Stock Products Act and the Animal Diseases Act, and were designated as Class D Stockyards. These regulations required the following main features:

1. Licensing of premises.
2. Location and construction to certain standards.
3. Veterinary inspection of all stock offered.
4. Monthly reporting of volume handled.

The Class D Stockyards varied considerably in the proportions of different classes of live stock handled, depending on the type of district they served. Of the twenty-two Class D yards licensed, regular brand inspection was conducted at twelve points. Brand inspection was not conducted at sales where cattle volume did not justify same and most cattle trade was purely local.

The total live stock marketed through Class D yards in 1956 was: Cattle 50,986; calves 13,371; hogs 93,397; horses 2,965 and sheep 5,932; for a grand total of 166,700 head.

IMPROVEMENT DISTRICT STRAY ANIMALS ACT

A number of pound districts were formed during the year and a few were absorbed into Municipal jurisdiction. One-hundred and seventeen pounds were in operation at the end of the year compared to approximately one-hundred and ten the previous year.

An amendment to the Act was passed to clarify eligibility of petition signers and to include goats as "Mischevious animals".

ALBERTA LIVE STOCK AND LIVE STOCK PRODUCTS ACT

As reported in 1955 regulations calling for licensing and control of Class C and Class D Stockyards came into effect on January 1st, 1956. Licenses were issued to twenty-two Class D and thirteen Class C Stockyards.

Also as reported in 1955 new regulations requiring the bonding of Live Stock Dealers came into effect at January 1st. A total of 591 dealers and dealers agents, made up of 386 dealers and 205 agents, were licensed during the year.

It was not found necessary to call any live stock dealer's bond. One license was suspended following reports of default of payment for stock but accounts were promptly paid without recourse to calling the bond. Several investigations were conducted, by one investigator from the Branch, into reports of irregularities in trading and all cases were settled satisfactorily.

Licenses were issued to three wool warehouses and ten wool collectors and buyers.

RECORDING OF BRANDS

The brand office was moved to more spacious and otherwise more suitable quarters in June. This move has resulted in much more pleasant and efficient working conditions for the staff of that office.

Brand registration remained about the same as in 1955. The following statistical summary shows the record for the year:

	Cattle	Horse	Sheep	Poultry	Fox	Total
New brands issued	1,807	155	....	......	......	1,962
Transfers registered	348	50	2	......	......	400
Certified Extracts issued	......	......	......	......	......	6
Brands renewed	5,322	810	1	......	......	6,133
Brands cancelled	161	42	1	......	......	204
	7,638	1,057	4	......	......	8,521

Brand renewal notices mailed:

Cattle ... 5,257 Horse ... 769 Sheep ... 6 Poultry ... 3 Total ... 6,062

The number of brands in good standing, per actual count, as at December 31, 1956:

Cattle	25,645
Horse	3,368
Sheep	15
Poultry	10
Fur Bearing	2
Total	29,040

The number of letters forwarded from this office from January 1st to December 31st, 1956:

Jan.	169	May	366	Sept.	86
Feb.	439	June	239	Oct.	225
Mar.	491	July	171	Nov.	290
Apr.	545	Aug.	87	Dec.	99
				Total	3,207

For the most part, these letters dealt with information on brands and instructions regarding brand transfers and also a number dealing with unregistered brands which were being used as reported by brand inspectors.

Mr. S. B. Clarke was appointed Brand Recorder in June, replacing Mr. A. Johnson who resigned at that time. At the time of change of Recorders considerable work had already been done on the transferring of cattle brand records from the book system to the new Kardex recording. The transferring is now completed, and while some checking remains in order to ensure an accurate record, the new Kardex system is working very satisfactorily and permits the checking of brands to be done more efficiently.

Recently a start was made on taking out the older files and by the end of the year approximately seven hundred had been removed. These were double checked and a record kept for future reference. As time permits checking these older files will continue until completed, at which time it is hoped that we can have all the files that include 1949 and later brands in more compact space.

PURE BRED SIRE AREAS

The two pure bred sire areas of Vermilion River and Athabasca continued to operate in 1956. Again, as in 1955, several other Municipal Districts showed some interest in organizing an area but no petitions requesting declaration were received.

THE HORNED CATTLE PURCHASE ACT

The following table shows the percentages of cattle with horns marketed at the main market centres in the years listed:

	1949	1953	1954	1955	1956
Calgary	15.6	12.7	10.2	9.5	8.7
Edmonton	19.9	18.4	15.7	14.6	13.1
Lethbridge	....	11.6	9.4	9.8	11.7
St. Boniface (Alta. cattle)	13.0	10.5	8.0	6.5	7.3
Community Co-op Auction Sales	10.4	4.9	3.2	4.1	4.7
Lloydminster	....	....	....	8.0	....
Country Auction Marts	....	....	....	8.3	....
Provincial average	17.4	15.0	12.5	11.4	10.9

Acknowledgments

Co-operation received from the breed organizations, sale associations, exhibitions, agricultural societies and commercial live stock associations has continued to be excellent. Operators of Class C and Class D Stockyards have been especially co-operative in working out new regulations that have, without doubt, improved the quality of service to the live stock producers.

The R.C.M. Police provided excellent support in matters of investigation and enforcement. The co-operation and support of all such organizations and the other Departments of the Government is greatly appreciated and hereby acknowledged.

Report of the Dairy Branch

D. H. McCALLUM, Dairy Commissioner

J. B. Linneboe, Ph.D., Bacteriologist
L. M. Silcox, Supervisor, Dairy Factory Inspection
R. P. Dixon, Supervisor, Dairy Cattle Improvement
B. J. McBain, Supervisor, Farm Cost Studies
L. H. Arnold, Supervisor, Frozen Food Locker Plants
A. F. Bennett, Charge of Dairy Statistics

GENERAL REVIEW

The year under review was not favorable for milk production. Milk cow numbers decreased by 3,000 head reducing the total to 312,000 head at June 1st. Following the severe winter of 1955-56, when feed supplies were reduced much below normal, dairy cattle went to pasture in poor condition which seriously affected milk flow for several months. Total milk production for the year amounted to 1,414,393,000 pounds, a reduction of 16 million pounds or 1.1%. The average production per cow, on the basis of all cows kept for milk purposes and total milk, amounted to 4,533 pounds of milk and 159 pounds of butterfat, assuming the average test to be 3.5 percent. These figures represent slight declines from the previous year.

There was some change in the utilization of milk. Following the trend of recent years larger quantities went into fluid sales at the expense of butter and cheese. Exactly half of the total milk was used in the manufacture of creamery butter, while fluid sales of milk and cream utilized 21.5 percent. Miscellaneous factory products including cheddar cheese, ice cream and evaporated milk accounted for 7.6 percent of the total. The quantity used on farms for dairy butter, home consumption and as a feed for livestock represented 20.9 percent compared to 21.5 percent a year earlier.

Prices remained relatively the same as in 1955. The higher value for milk used for fluid sales offset the decline in total production with the result that values for factory products as well as the farm values were practically the same as for the previous year. The total value of all factory products plus the value of that portion of milk remaining on farms amounted to $52,193,000.00.

The quality of dairy products was not only maintained but improved slightly from the previous high records established in 1955. Federal grading reports indicate that 97.1 percent of the creamery butter and 92.2 percent of cheddar cheese graded qualified for first grade. Exhibits of creamery butter from Alberta won the championship at every Canadian exhibition offering classes for this product. The quality of other products including pasteurized milk, ice cream and cottage cheese all showed improvement when measured by laboratory tests and scoring panels.

New Office Accommodation

The Dairy Branch office formerly located at Room 223 Legislative Building was moved to occupy a portion of the east wing on the fifth floor of the same building. Sufficient space at the new location (503) made it possible to consolidate all office staff of the various divisions. These changes involved the Farm Cost Study division formerly located at the Press Building, University Campus, the Cow Testing division which had been housed in the Terrance Building and the Edmonton Inspectors who were accommodated in the general office of the Extension Branch.

ESTIMATED FARM VALUE OF ALBERTA MILK PRODUCTION 1956

The following table shows the quantity, farm value and utilization of Alberta milk production during 1956. For sake of comparison 1955 figures are included.

	Year	Pounds	Milk Equivalent Pounds	Percent Total Milk	Price		Value
Butterfat for Creamery Butter	1956	24,780,000	707,148,000	50.0	$ .597	per lb.	$14,790,000
	1955	25,687,000	733,028,000	51.2	.601	per lb.	15,439,000
Farm Dairy Butter	1956	2,730,000	63,882,000	4.5	.56	per lb.	1,529,000
	1955	2,741,000	64,139,000	4.5	.56	per lb.	1,535,000
Milk and Butterfat for Ice Cream (milk basis)	1956	....	49,504,000	3.5	2.36	per 100 lbs.	1,170,000
	1955	....	46,172,000	3.2	2.39	per 100 lbs.	1,104,000
Milk for Cheesemaking and Concentrating	1956	....	57,329,000	4.1	2.42	per 100 lbs.	1,385,000
	1955	....	58,641,000	4.1	2.39	per 100 lbs.	1,406,000
Milk and Cream Fluid Consumption (milk basis)	1956	....	304,220,000	21.5	4.17	per 100 lbs.	12,689,000
	1955	....	286,155,000	20.0	4.26	per 100 lbs.	12,195,000
Milk Farm Home Consumed	1956	....	133,500,000	9.4	2.40	per 100 lbs.	3,204,000
	1955	....	137,100,000	9.6	2.39	per 100 lbs.	3,277,000
Fed Farm Animals	1956	....	98,810,000	7.0	2.40	per 100 lbs.	2,371,000
	1955	....	104,880,000	7.4	2.39	per 100 lbs.	2,507,000
Kept on Farms: Skimmilk from Creamery Butter and Skimmilk and Buttermilk from Dairy Butter	1956	678,667,000	....	......	.35	per 100 lbs.	2,376,000
	1955	703,156,000	....	......	.32	per 100 lbs.	2,250,000
Total	1956	....	1,414,393,000	100.0	....		39,514,000
	1955	....	1,430,115,000	100.0	....		39,713,000

ESTIMATED PRODUCTION AND VALUE OF FACTORY DAIRY PRODUCTS 1956 (Preliminary) COMPARED TO 1955

The following table shows the production and value of dairy products manufactured and processed in Alberta.

	Year	Quantity	Price		Value
Creamery Butter, lbs.	1956	30,220,000	$ .575	per lb.	$17,377,000
	1955	31,326,000	.5759	per lb.	18,041,000
Cheddar Cheese, lbs. (including net increase in processing)	1956	1,933,000	.375	per lb.	724,000
	1955	2,151,000	.357	per lb.	767,000
Ice Cream, Gallons*	1956	2,912,000	1.60	per gal.	4,659,000
	1955	2,716,000	1.60	per gal.	4,346,000
Fluid Milk Sales, lbs. (including processing charges)	1956	234,960,000	5.86	per 100 lbs.	13,761,000
	1955	219,850,000	5.76	per 100 lbs.	12,662,000
Cream as Milk, lbs. Fluid sales (including processing charges)	1956	69,260,000	4.38	per 100 lbs.	3,035,000
	1955	66,305,000	4.35	per 100 lbs.	2,882,000
Skimmilk and Buttermilk Sales for Human Consumption (including processing charges)	1956	12,358,000	3.51	per 100 lbs.	434,000
	1955	10,827,000	3.35	per 100 lbs.	363,000
Skimmilk, Buttermilk, lbs.	1956	34,793,000	.35	per 100 lbs.	122,000
	1955	36,524,000	.32	per 100 lbs.	117,000
Whey, lbs.	1956	15,980,000	.175	per 100 lbs.	28,000
	1955	17,780,000	.16	per 100 lbs.	28,000
Miscellaneous Manufactured Products**	1956	....	....		2,573,000
	1955	....	....		2,488,000
Total	1956	....	....		42,713,000
	1955	....	....		41,694,000

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*Mix converted to Ice Cream on basis of 100% overrun.

**Includes concentrated milk products, cottage cheese, whey butter, Yoghurt and cheese other than cheddar.

DAIRY FACTORY INSPECTION AND INSTRUCTION

Licensing and Bonding

There were 130 dairy manufacturing plants licensed and in operation during the year. Of this total, 67 manufacture or process only one product. They are as follows: 29 butter, 29 fluid milk and cream, 8 cheese and 1 milk powder. The remainder are classified as combination plants. The issuing or renewal of licenses is dependent upon plants reaching a minimum standard of construction, sanitation and equipment. During the year a new requirement in the form of a surety bond was instituted before licenses were renewed. This provides a measure of security to patrons supplying milk and cream.

Licenses for cream grading and for milk and cream testing totalled 278 of which 25 were new and were issued only after the candidate had satisfactorily passed an examination.

Inspections

Inspections at all dairy plants, made by the field staff of 11 inspectors, totalled 1,530 for the year. Official grading was done on 77,723 cream shipments and check tests for butterfat content was made on 27,210 samples of milk or cream. Adjustments in payments to patrons due to errors in grading and/or testing, by plant personnel were required on only 1.8% of this number.

Quality Improvement and Instruction

Quality of raw milk received from farms shows steady improvement at all milk pasteurizing plants. Some of this is due to the increasing use of bulk cooling units mainly on dairy farms of the larger milk sheds. Increasing use of quality tests on raw milk being received at dairy plants is also contributing to improvement in quality. This is more noticeable at those plants where the reductase and sediment tests are applied as a payment basis. Dairy Branch and Health Unit officials co-operated in promoting sound modern production methods by farm visits and quality meetings arranged for producers with the support of local milk companies.

To assist manufacturing and processing plants with the quality of finished products, inspectors study detailed plant records and make recommendations to responsible plant personnel. Samples are also taken during the various processing procedures and forwarded to the Dairy Branch Laboratory for bacteriological or chemical analyses. These analyses provide direct answers to workmanship and sanitation problems.

Butter and Cheese Quality

Federal grading reports for the year show improved quality for both butter and cheese over the previous high records of 1955. An all time high of 97.1% of butter graded, was first grade. Cheddar Cheese graded also show a similar record with 92.2% first grade.

Alberta buttermakers won all the championship awards and the majority of special prizes at all leading Canadian Exhibitions offering classes for such a product. Besides the four championships plus two reserve championships and one highest aggregate score, there were three silver medals and five special prizes awarded to Alberta plants for best finished butter. A grand total of 190 prizes for butter were awarded at these exhibitions where the group scoring system is used, while in the cheese classes 7 prizes were awarded on straight placings, to Alberta factories.

At the Scottish Dairy Show, Glasgow, Scotland, Alberta exhibits won four prizes of the ten provided for butter made in British Commonwealth countries (Overseas). The remaining prizes were taken by Australia and New Zealand.

The top ranking plants which won championships, special awards, silver medals, etc., and including those taking prizes at the Scottish Dairy Show are as follows: The Northern Alberta Dairy Pool Limited, Barrhead, Edmonton, Millet, Radway and Wetaskiwin; The Central Alberta Dairy Pool, Ponoka and Stettler; Palm Dairies Limited, Calmar; and the Viking Co-operative Creamery Association Limited, Viking.

Check Weighing of Butter and Cheese

There were 2,856 boxes of butter weighed representing 159,936 pounds of creamery butter compared to 14,950 and 833,408 pounds during 1955. This was considerably less than last year owing to fewer offerings being made to the Agricultural Products Board. A total of 109 boxes of cheese was check weighed representing 9,483 pounds of cheddar cheese.

Diploma Course in Dairying

The Diploma Course in Dairying which is held every second year at the University of Alberta terminated at the end of April. The course is a joint undertaking by the Department of Dairying, University of Alberta; the Dairy Branch, Department of Agriculture; and Canadian Vocational training. Diplomas were awarded to six students while three others were successful in receiving certificates of record. The Alberta Dairymen's Association gold medal for highest standing in the course was won by Walter E. Styles of Athabasca.

Dairy Plant Changes

Evansburg Creamery changed ownership on April 1st and is operated under the name of Evansburg Creamery Limited.

Milk pasteurizing plants at Raymond and Beaverlodge closed on April 16th and May 1st respectively.

Palm Dairies Limited, Calgary, commenced manufacturing butter at the main plant on May 1st. The Northern Alberta Dairy Pool Limited reduced operations at their combined branches at Millet and Grand Centre by discontinuing the manufacture of cheddar cheese at Millet on May 30th and creamery butter at Grand Centre on June 11th.

The Central Alberta Dairy Pool plant at Delburne was destroyed by fire on May 20th. Later in the year it was replaced by an egg grading station and refrigerated space for holding cream and distributing fluid milk.

Modern milk pasteurizing plants were put into operation by Edson Dairy Limited on July 29th. Central Peace Dairies Limited, Rycroft on November 15th and Barrhead Dairy on November 24th.

LABORATORY SERVICE

During 1956 the dairy industry made more use of the services provided through the laboratory than in any other year since its inception.

Information on the number of samples submitted, the diversified nature of the material involved, as well as a comparison with the previous year can be obtained from the following table.

	No. of Samples	
	1956	1955
Butter samples for mould and yeast	4,060	3,713
Butter samples for pH	1,934	1,757
Milk control service	7,266	5,803
Water samples from dairy factories	9	23
Bacteriological creamery survey samples	80	104
Mastitis and Bang's control service	1,986	2,160
Egg samples	444	501
Cheese for extraneous matter	....	114
Cheese samples for pH	48	....
Miscellaneous samples	382	264
	16,209	14,439

It will be noted that the demand for service has been the greatest with the fluid milk supply as over 7,000 samples of this product were analyzed during the year under review.

A very close liaison between the laboratory and the men working in the field continued to exist during the year. The quality of fluid milk has been improved through the efforts of the inspection staff of the Dairy Branch and the sanitary inspectors with the Department of Health. These officers were responsible for properly lifting the necessary samples and interpreting the laboratory reports to plant personnel.

Laboratory reports now indicate that the quality of the finished products at a great many of the country plants is now equal to the best.

Closely related to the raw milk supply is the problem of mastitis. It is rather unfortunate that it has not been possible to interest more producers in the mastitis control program offered by the department.

The mould and yeast count on creamery butter ranks foremost as a service to Alberta creameries. This test is considered a reliable index to the sanitary condition under which the butter was made. It is, therefore, gratifying to report that the excellent record of the previous year has been maintained and that 81.6% of the 4,060 churnings examined had a mould and yeast count of 10 or less as compared to 81.4% for 1955. Three creameries had a perfect record on all samples submitted during the regular competition year and several additional samples were required before the winner of the cup was determined.

As a result of this very high standard of sanitation butter defects of a microbial nature have been extremely rare.

To assist creameries experiencing difficulty with sanitation a complete survey is usually made. This involves lifting samples at different stages in the manufacturing process. The results indicate where the trouble originated and suggest the corrective measures to be taken.

There has been a sharp decline in the number of creamery well waters received for analyses. This is undoubtedly due to the fact that most plants are now using a municipal water supply or manufacturing unwashed butter.

To the trade it is of utmost importance that a dairy product has uniformity. One of the properties of a dairy product most readily determined by the consumer is its acidity. The laboratory has devoted considerable time to checking the acidity of Alberta butter and cheese. Although perfection has not been attained, good progress has been made. Of the 1,934 samples of butter examined for acidity during the year 47.9% came within the most desirable pH range of 6.95 to 7.25, 21.9% gave a reading below 6.90 and 30.2% of the samples a reading above 7.30.

In addition to the above mentioned services the laboratory has been called upon to examine a considerable quantity of material of an agricultural nature.

The policy of supplying the dairy factories and those engaged in inspection services with solutions and indicators as needed has been continued. The same is true of the cheese starter service whereby the cheese maker is supplied with a pure, active culture twice a month.

During the year the laboratory was moved from the Terrace Building to quarters in the Alberta Office Building at 10302 - 107th Street. An invitation is extended to all interested to visit the new laboratory and become acquainted with the work of this division.

DAIRY CATTLE IMPROVEMENT SERVICE

Cow Testing

An increased number of herds and cows under test with a higher production per cow, highlight the report of this division for 1956.

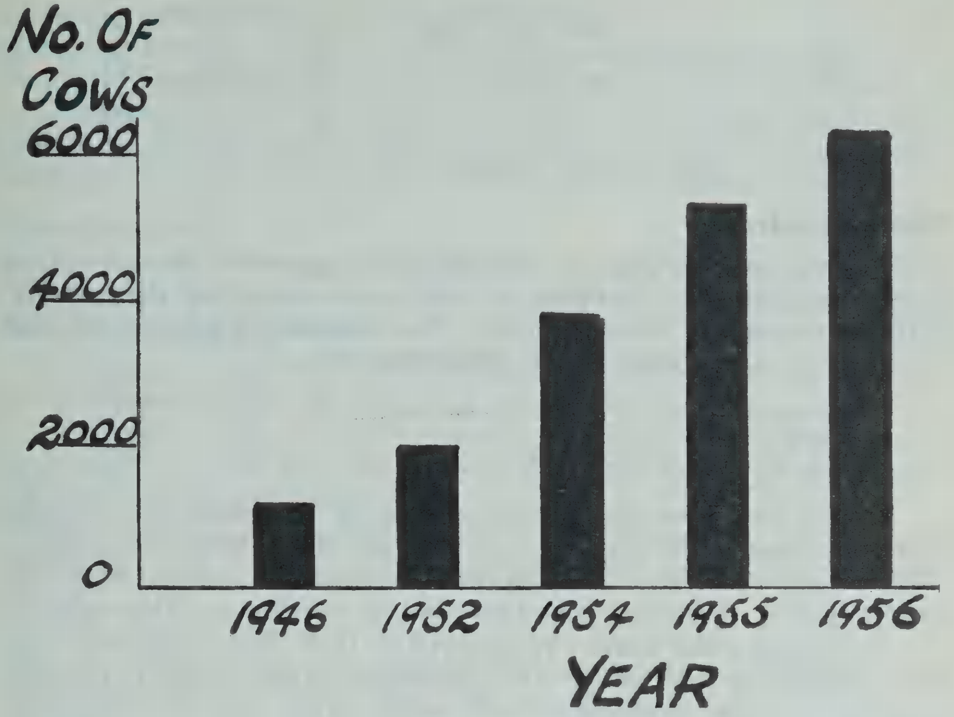
64 new herds and 1,388 cows were placed under test during the year. Of this number 41 herds and 628 cows were under the "Mail Order System", and 23 herds and 760 cows were under the "Owner Sampler Route Plan System". 30 herds that were under test in 1955 did not continue on test in 1956. The net increase for the year is therefore 34 herds and 996 cows.

The following graph shows the steady increase in the number of cows tested commencing in 1946. It will be noted that the last three years have shown the largests increases. Over three times as many cows were tested in 1956 than in 1952.

The increasing number of cows being placed on test has made it difficult to keep all the work up-to-date. However, extra office assistance, together with the more favorable working conditions made it possible to complete all records regularly every month with the exception of individual certificates of production. With the likelihood of more cows being tested during 1957 this will again present a problem. Without additional help it may become necessary to eliminate some of the information now prepared for herd owners in order to cope with the larger number of herds under test.

(a) Mail Order Testing

Two plans of mail order testing are offered herd owners. Plan 1 is based on daily weighing and monthly tests, while Plan 2 is based on a record which is computed from the weight of milk given on the 15th day of each month. Samples for butterfat tests are lifted monthly. Weights and samples in both plans are taken by



the herd owners and the butterfat tests made by officials of the Dairy Branch.

The following table shows the number of herds and cows tested under the two mail order plans.

	No. of Herds		No. of Cows	
	1955	1956	1955	1956
Plan 1	61	65	1,015	1,087
Plan 2	129	138	2,853	3,033
Total	190	203	3,868	4,120

(b) Owner-Sampler Route Plan Testing

This system of testing is operating only in the Edmonton Milk Shed at the present time. Records are kept under Plan 1 or Plan 2 as in the Mail Order Testing. Under the "Owner-Sampler" program a full time fieldman visits each herd owner monthly. At the time of this visit he leaves a sample box for the next month's samples and picks up the samples which the herd owner has lifted for the current month. In addition to checking the accuracy of the milk scales being used and assisting the herd owner with record keeping, the fieldman ear tags all heifer calves for identification purposes. During the year a total of 226 heifer calves and 58 cows were ear tagged.

A total of 1,316 individual farm visits were made by the fieldman during the year. Milk samples were lifted by the fieldman on 32 farms; 9 of these being "check tests" and 23 were new herds coming on test, where instruction on the correct sampling procedure was necessary.

The following table indicates the extent of which the Owner-Sampler Route Plan program has been utilized since it was started on June 1, 1954.

	No. of Herds			No. of Cows		
	1954*	1955	1956	1954*	1955	1956
Plan 1	3	7	5	48	133	97
Plan 2	10	34	57	285	1,282	2,062
Total	13	41	62	333	1,415	2,159

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*June 1, 1954 to October 31, 1954.

Testing Centres

Testing centres were in operation at Edmonton, Ponoka, Red Deer and Calgary. Samples of milk were tested by department officials at each of these centres. The number of cows under test at each centre is shown in the following table.

	1955	1956
Edmonton	2,839	3,416
Ponoka	923	1,008
Red Deer	1,246	1,089
Calgary	275	766

During the year the testing centre at Edmonton was moved from the Terrace Building and given space at the Dairy Laboratory, 10302 - 107th Street. The installation of new equipment facilitated the testing of the increased number of samples at Edmonton.

To indicate the extent to which the Cow Testing Service has been utilized by herd owners, the following table has been prepared showing average production under each plan, as well as the provincial average for all cows under test. The previous year's figures are shown in brackets.

SUMMARY

	*Plan 1		**Plan 2		Total	
No. of herds under test	70	(68)	195	(163)	265	(231)
No. of cows under test	1,184	(1,148)	5,095	(4,135)	6,279	(5,283)
Av. No. of cows per herd	16.9	(16.9)	26.1	(25.4)	23.7	(22.9)
Herd Av. on basis of cows years (T)						
No. of cow years	886	(820)	3,465	(2,878)	4,351	(3,698)
Av. production of milk lbs.	9,350	(9,272)	9,127	(8,979)	9,173	(9,044)
Av. production of butterfat lbs.	329.7	(325.1)	314.9	(306.1)	317.9	(310.3)
Av. Test %	....		....		3.47	(3.43)

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*Plan 1 Daily weighing and monthly tests.
**Plan 2 Computed records from one day's weighing and monthly tests.

(T) The total number of cows on test during the year is used in determining the herd average, except where new cows are placed on test, or a cow is sold or dies; in these cases only that part of the year in which she produces is used.

From the previous table it will be noted that the average production of all cows under test shows an increase of 129 lbs. of milk and 7.6 lbs. of butterfat over 1955.

It is also evident that over 80% of the cows tested were under Plan 2. This plan is proving particularly popular with the large herd owners. The average size of herd testing under this plan is 26 cows.

Reports and Competitions

Individual reports are sent to every herd owner having his herd tested. These reports give the total milk and butterfat production of his herd for the year, as well as the herd average. Copies of these reports are forwarded to the District Agriculturists in whose areas the herds are located.

Higher butterfat production per cow and herd improvement is encouraged through competitions. Herds on the Cow Testing Service are automaticaly entered in these competitions and winners are selected on the basis of production and herd size. Awards are announced at the annual Alberta Dairymen's Convention.

The "Honour Roll", covering herds of five cows or more that have been on test a full eight months with an average production of 300 lbs.of butterfat or over, contained 119 herds. This represents an increase of 15 herds over the previous year.

Extension Work

Due to the increase in the number of herds and cows on test the time required in the supervision of the Cow Testing Service Policy was greatly extended.

Fifteen dairy fields days were organized during the summer; in co-operation with the local district agriculturists.

Ten 4-H Dairy Club "Achievement Days" were judged and nineteen meetings were attended. At these meetings dairy production problems were discussed.

The Supervisor co-operated with the Livestock Branch and purchased twelve dairy bulls placed under the Cattle Improvement Policy.

Throughout the year farmers were referred to this office by their local district agriculturist for help in locating dairy stock.

Assistance was given the Attorney General's Department in establishing a pure bred Holstein herd at Bowden.

In addition to aiding in the selection of the dairy cattle entries for the Royal Winter Fair, the supervisor was in attendance and acted as bursar for Alberta live stock exhibits.

A monthly newsletter release "Dairy Herd Improvement News" was published throughout the year. This newsletter is sent to all herd owners on test and carries articles of interest to producers.

All correspondence relative to dairy cattle, exclusive of animal health, was directed through this office.

Interest in artificial insemination increased during the year. The success achieved by the Lacombe unit with frozen semen encouraged the formation of similar units at several other points. The Supervisor acted as an ex officio member of the bull selection committee for these units and assisted in making selections of the bulls from which semen was obtained.

Greater interest in cow testing and herd improvement work will undoubtedly result as more artificial insemination units are formed.

FARM COST STUDIES

Cost of production studies of a formal nature are being continued in four of the principal fluid milk markets of the province. Eighty four farm accounts were closed in the 4 major milk sheds during the summer and the reports are nearing completion at the year end. Each co-operating farmer will again be supplied with a complete analysed record of his own operations. For sake of comparison the same report contains similar information on the group average for farms under study in that particular area.

These studies provide continous and comparable data for 18 and 14 years respectively for the milk sheds of Edmonton and Calgary. Studies in the milk sheds of Lethbridge and Medicine Hat have been carried on for over ten years. These reports provide valuable material on changes in management practices and its effect on production costs as well as on farm income. They also provide data on trends over a long period which is proving valuable to producers as well as price fixing boards and extension workers. The Board of Public Utility Commissioners provide a yearly grant, part of which comes from a milk producers assessment, for the continuation of these milk studies.

Mixed Farm Studies

The four year report covering these 50 mixed farms in the Leduc-Wetaskiwin area was released early in 1956. The release of this report coincided with the acuteness of rising production costs and the cost-price squeeze affecting farm operations. It had the effect of emphasizing to the farmer the need for closer investigation of his farm business.

Later a five year mimeographed summary was prepared covering the operations of the fifty individual farms taking part in the study. These summaries were returned either individually or at meetings. It was planned that a more complete 5 year report showing costs on various farm products would be prepared and printed for rather wide distribution. This became impossible due to the heavy demand for extension work both in the area under study and in other districts where farm planning was receiving greater attention. While requests have been received to continue this study no decision has yet been reached.

Canning and Speciality Crop Study

A group of twenty-five farm accounts were closed for the second year. Detailed costings and conditions were obtained for the production of sugar beets, canning peas and corn giving 65 enterprises studied. A general meeting of the canning crop growers was attended during the summer and the findings of the second year study were discussed. Individual reports, for the farms on study, were made available to co-operators. These reports proved valuable to both producers and processor in attempting to appraise problems on production and marketing.

Extension Work

The greater emphasis given by the Extension Service to farm business analysis for the farm planning program resulted in a large number of requests for the services of the Farm Cost Study staff. While it was impossible to meet all of these requests over forty meetings were attended. At the majority of these meetings illustrated talks were given on the method of a total farm business analysis. Emphasis was placed on the productivity rating covering the six most important factors for measuring the success of a farm business. A "Quick Appraisal Form" was devised which was based on findings from the three types of studies being conducted by this division. This form met with wide acceptance and is proving a useful tool for the extension worker. The Quick Appraisal Chart is used to emphasize which production factors are weak.

Increased requests for data from the various studies continued throughout the year. These requests come from a wide field of agencies including; agricultural extension workers, milk control agencies, other economic workers at the University and Federal Department of Agriculture; immigration officers and also the new immigrant who has requested information on several topics. These requests have more than doubled the year's correspondence and about trebled office consultations.

Other extension items included attendance at Service Board Meetings on the uses of Marginal and Sub-marginal land, preparation of Farm Management Schedules, news items for the Radio and Information Branch, appraising and setting up several farm share rental agreements, calculating cost of producing cream on a specific farm involved in a dispute over damages caused by an oil company, appraising milk production in Lethbridge area for a program of growing feed as compared to purchasing feed, and setting up data to assist in appraising farms being taken over for the new Edmonton airport.

Educational Tour

By combining a holiday period with a similar period of three weeks granted by the Department, it was possible for the Supervisor to visit and secure first hand information from a number of Farm Management Divisions outside Alberta. These included the Ministry of Agriculture, London, England, University of Reading; The Economic Institute at the Hague and the Farm Economic Branch, Ontario Department of Agriculture, Toronto. The information received from these contacts is proving valuable in guiding Farm Cost Study work in Alberta. A series of coloured slides covering farming operations in England and Holland were prepared from snapshots taken during this tour. These will prove interesting to agriculture workers in Alberta.

MARGARINE ACT

During the year the administration of the margarine act was transferred to the Dairy Branch. Formerly this act had been administered by the Department of Industries and Labour. Only one plant manufactures margarine in Alberta and that is licensed under the Licensing of Trades and Business Act. Inspectors of the Dairy Branch collected samples of various brands of margarine at the retail level. These were checked for branding, composition and colour at the dairy laboratory.

FROZEN FOOD LOCKER PLANTS

Present Trends

Throughout the greater part of the province there was a decline in locker rentals during the year. This decline was fairly heavy during the first half of the year, however, several operators reported substantial increases during the fall months. The purchase of home freezers for added convenience was the main reason for locker rental decline. To meet this business trend several plant operators adjusted their operations by offering additional services and adding new lines of fresh frozen foods. The present trend is for locker plants to act more as food provisioners than as storage plants.

At the end of the year fewer plants were in operation than a year ago. This is a normal re-adjustment for an industry that grew rapidly during the war and the years immediately following. At that time locker plants were constructed and put into operation at a rapid pace due to rationing and the steadily rising prices for meat products.

Locker plants at Clive, Coutts, Ryley and Crystal Dairy, Calgary discontinued operations during the year. Undoubtedly small operations with dwindling revenues from rentals and processing was the principal reason for this move. A new complete service plant with 300 lockers was put into operation at Warburg during January.

Inspection and Instruction

The inspection of Frozen Food Locker Plants was carried out by eleven inspectors under the direction of a supervisor. A total of 1,130 inspections were made by the inspectors while at least one inspection to each plant was accomplished by the supervisor. The standard of plant services and operations again showed considerable improvement during 1956. Additional services including slaughtering of farm animals were added by several operators. Encouraged by the supervisor new slaughter houses have been constructed and a general improvement in sanitation at existing slaughter houses took place. These services have benefited owners of home freezers and their demands are increasing rapidly. By preventing spoilage and turning out better quality meat products savings are made to owners of home freezers and locker renters.

Meat cutting demonstrations at short courses and the Schools of Agriculture as well as addresses on "Slaughtering on the Farm", "Handling and Preparing Products for Freezing", and "Benefits of Using a Home Freezer" were given at a number of points throughout the province.

The scoring of all plants for the Merit Award Competition and for Proficiency Certificates was carried out by the inspectors. The top plants in each district for the Merit Award were given a final score by a committee from headquarters. Taber Frozen Food, (S. A. Odland, Prop.) won the shield in Section A, (Plants over 400 locker capacity), while Hanna's Frozen Foods, Calgary, and Redi Food and Freezers, Edmonton, placed second and third respectively. In Section B, (Plants with less than 400 lockers), Beiseker Frozen Food Centre, (W. Lavoie, Prop.) was awarded the shield, while Peace River Meat Co., Peace River, and Peace River Meat Co., Sexsmith, were second and third respectively.

Proficiency Certificates based on 1955 operations were awarded to 27 operators at the Locker convention compared to 19 in 1954.

Statistics

The following statistics are tabulated from the information received by monthly reports and cover the 12 month period ending November 20, 1956. Products processed for home freezers as well as for storage in lockers are included. Statistics for the previous 12 months are included for comparison.

LOCKERS

Products	1956 Pounds	1956 %	1955 Pounds	1955 %
Fresh Meat	10,066,571	78.7	10,827,281	79.1
Cured and Smoked Meat	979,225	7.6	1,050,220	7.6
Lard Rendered	138,977	1.1	146,389	1.0
Fish	47,140	.4	68,229	.4
Poultry	744,629	5.8	938,286	6.8
Big Game	369,589	2.9	236,041	1.7
Game Birds	52,698	.4	73,426	.5
Fruits and Juices	88,468	.7	96,317	.6
Vegetables	227,204	1.8	250,688	1.8
Miscellaneous	77,630	.6	73,247	.5
Total	12,792,131	100.0	13,760,124	100.0

HOME FREEZERS

Products	1956 Pounds	1956 %	1955 Pounds	1955 %
Fresh Meat	2,226,037	78.9	1,536,050	76.0
Cured and Smoked Meat	174,505	6.2	128,241	6.3
Lard Rendered	18,192	.6	9,867	.5
Fish	26,952	1.0	19,363	1.0
Poultry	45,831	1.6	33,090	1.6
Big Game	16,897	.6	12,635	.6
Game Birds	150	.0	843	.1
Fruits and Juices	121,139	4.3	103,795	5.1
Vegetables	98,405	3.5	94,591	4.7
Miscellaneous	94,098	3.3	83,181	4.1
Total	2,822,306	100.0	2,021,656	100.0
Total for Lockers and Home Freezers	15,614,437		15,781,780	

It will be noted that the total amount of food processed for the year was approximately 167,000 pounds less than the previous year. Processing for storage in lockers was down practically one million pounds whereas processing for home freezers increased approximately 800,000 pounds. Less fresh meat went into lockers, however, this loss was made up by the increased quantity processed for home freezers. Another reason for the lower volume was that retail merchants sold and processed fresh meat products to home freezer owners. If statistics on this item were available the total volume would be much higher. Big game placed in storage showed a substantial increase whereas fewer game birds were reported.

	1956	1955
Number of plants in operation	151	153
Number of plants reporting	151	150
Number of lockers installed	49,304	51,488
Average number of lockers installed	327	337
Number of lockers rented, December 1st	40,159	43,608
Percentage of lockers rented, December 1st	81.5	84.7
Average lbs. of food stored per locker, with complete service	330.9	329.7
Average lbs. food stored per locker, with incomplete service	176.5	163.9
Average poundage per locker, all plants	318.5	315.6
Average lbs, per locker on the basis of lockers rented for 12 months	320.5	307.9
Inspections during the year	1,130	1,133

There were 2,184 less lockers available at the end of the year. The percentage of lockers rented was 81.5 compared to 84.7 the previous year. This decline has been steady since 1953 when 93% of all lockers were rented.

The average pounds of food stored per locker on the basis of lockers rented for 12 months shows an increase of over 12 pounds per locker. This increase per locker indicates that locker patrons are using their lockers to advantage.

Milk Control Report

Submitted by the

BOARD OF PUBLIC UTILITY COMMISSIONERS

J. B. Moore, Administrator of Milk Control

Seven of the eight controlled areas reported upon show increases in fluid milk consumption ranging from 1.8% to approximately 11%. The two major areas of Calgary and Edmonton show increases of 6 and 8% respectively. One area—the Crow's Nest Pass—indicates a decrease of 3%.

Consumption in the eight areas indicates a better than 7% increase with production indicating a corresponding rate of increase over 1955.

Licensed milk producers now total 891, a decrease of approximately 2% below the number in 1955.

Three applications were received during the year. Two of the three were made by a single distributor in Medicine Hat and Lethbridge and dealt with the elimination of Wednesday delivery—both applications were granted. The third—an application for a reduction in the price paid to producers in the Lethbridge area for milk sold in areas not designated as controlled areas—was also granted.

The Board continued to actively assist in the Dairy Cost Survey and to provide the necessary funds.

Two representatives of the Board attended and presented papers at the International Milk Control Agencies' Convention in Toronto, Ontario.

Report of the Poultry Branch

R. H. McMILLAN, Poultry Commissioner
G. R. Milne, Poultry Supervisor

INSPECTORS:

K. Rowe	Edmonton	E. E. Kitchen	Red Deer
L. J. Semple	Edmonton	W. Hutchison	Calgary
G. O. Johnson	Camrose		

GENERAL REVIEW

Economic conditions in the poultry industry were in general somewhat depressed compared to those of 1955. The accompanying graphs indicate what is happening in Alberta as far as production and prices received for poultry and poultry products are concerned. One trend that is evident, aside from annual fluctuations, is that while production is gradually climbing over the years, prices received by the producer are just as surely declining. This means that producers of commercial eggs, broilers and turkeys are becoming caught up in a price squeeze as costs of production are not declining proportionately. Production of both eggs and poultry meat exceeded previous highs.

To offset narrowing margins, poultry producers in many instances are becoming more specialized. There is evidence of an increased interest by the poultry raiser in quality of stock and feed purchased. We have record of approximately 75 farmers who are expanding their flocks to an economic, efficient unit of 500 pullets or more. There are undoubtedly additional farmers doing likewise of which we have no record.

In addition to more efficient management methods many producers adjacent to the larger centres of population are grading their eggs and selling them direct to consumers. The demand for farm fresh eggs is strong.

The Agricultural Prices Support Board continued in effect in 1956.

Egg and poultry meat production as indicated by receipts at registered stations are shown in Table I.

TABLE I

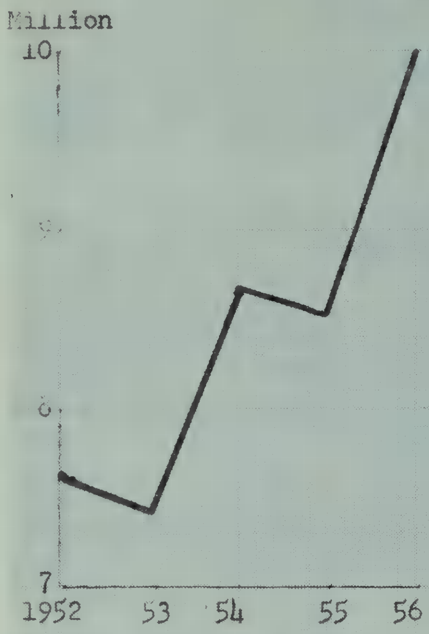
Year	Egg Receipts at Registered Egg Grading Stations (30 dozen cases)	Dressed Poultry Receipts at Registered Stations (pounds)
1952	508,868	10,748,356
1953	533,814	9,874,287
1954	531,433	12,163,248
1955	548,215	14,666,554
1956	593,893	17,981,000

TABLE II

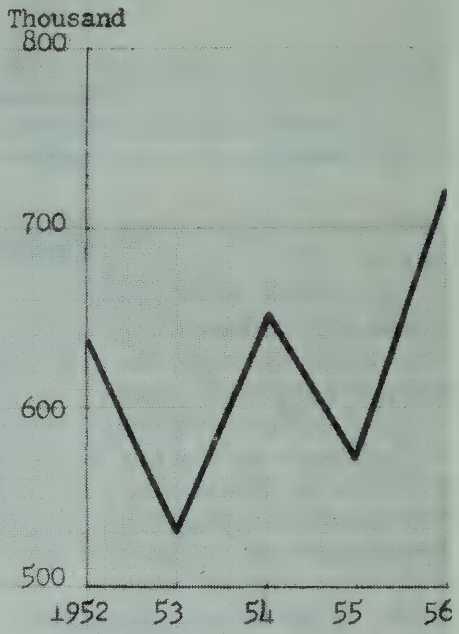
POULTRY AND TURKEY POPULATION
(June 1st)

Year	Poultry	Turkey
1952	2,550,000	640,000
1953	2,600,000	530,000
1954	2,650,000	650,000
1955	2,850,000	570,000
1956	2,950,000	715,000

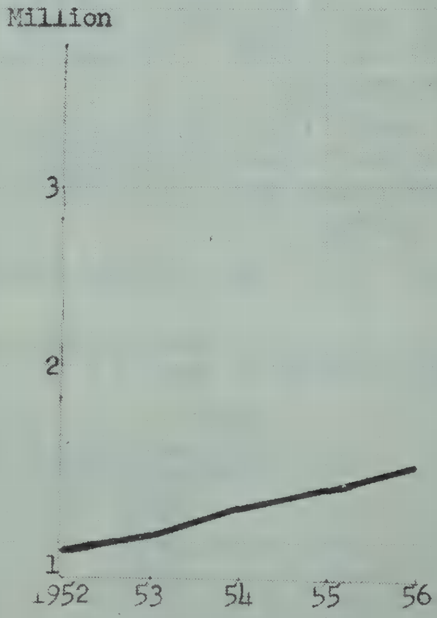
PRODUCTION



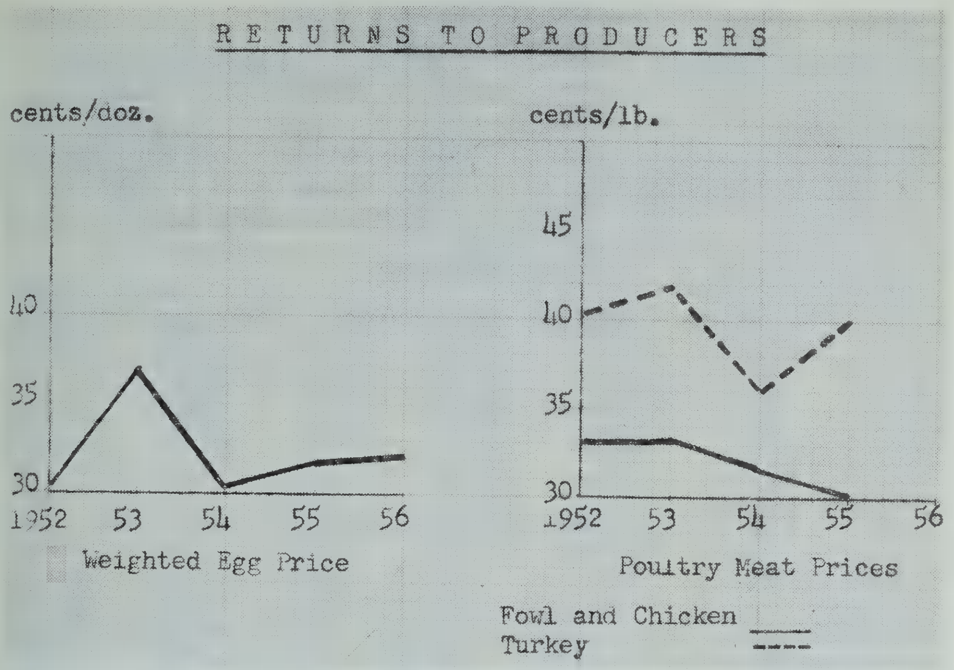
Chick Production



Poults on Farms (June 1)



Egg Production
(30 doz. cases)



LICENSING AND BONDING OF DEALERS IN POULTRY AND POULTRY PRODUCTS

A. **Produce**—The Poultry Branch administers regulations respecting the Licensing and Bonding of Dealers in Poultry and Poultry Products under the Alberta Live Stock and Live Stock Products Act. Every person carrying on a business as a dealer must obtain a license to conduct such business. As of January 1, 1956, as protection to producers, all wholesale dealers are required to furnish a surety bond in favor of the Minister of Agriculture of $1,000 to $10,000, depending upon the volume of business conducted.

There were two prosecutions and convictions of wholesale dealers for failure to comply with the above regulations concerning licensing and bonding in 1956.

TABLE III

Year	First Receivers	Reg. Egg Grading Stations	Reg. Poultry Processing Stations	Reg. Poultry Eviscerating Stations	Reg. Poultry Grading Stations	Temporary Grading Stations
1952	158	157	18	6	5	7
1953	120	154	20	7	4	8
1954	88	152	21	9	6	7
1955	70	146	21	9	6	6
1956	46	140	21	8	8	4

B. **Hatchery**—The Poultry Branch administers regulations respecting the Production and Sale of Chicks under the Alberta Live Stock and Live Stock Products Act. All commercial and custom hatcheries with an incubator capacity of 1,000 eggs or more are licensed. Since 1951 commercial hatcheries are required to furnish a surety bond, for protection of hatching egg producers, in favor of the Minister of Agriculture, ranging from $2,000 to $5,000, depending upon incubator capacity.

There were two prosecutions and convictions of commercial hatcherymen for failure to comply with the above regulations concerning licensing and bonding in 1956.

TABLE IV

DEVELOPMENT OF HATCHERIES

Year	Breeder Hatcheries	Commercial Hatcheries	Egg Setting Capacity
1952	7	51	3,900,055
1953	10	48	4,397,743
1954	11	49	3,917,388
1955	12	49	4,103,088
1956	14	51	4,466,034

TABLE V

CHICK PRODUCTION

Year	% Hatchability	Chicks Hatched	Chicks Not Sold	Chicks Exported	Chicks Imported	Chicks remaining in Province
1952	66.8	7,484,064	453,816	232,321	487,710	7,285,637
1953	69.2	7,261,434	397,280	241,384	454,757	7,077,545
1954	70.4	8,466,258	434,060	318,474	853,676	8,567,400
1955	69.3	8,212,591	497,055	298,997	369,423	7,785,962
1956	69.0	9,495,784	577,267	279,728	346,574	8,985,363

TABLE VI

CHICKS HATCHED BY BREED

	1952	1953	1954	1955	1956
S.C. White Leghorns	1,547,949	1,516,603	1,959,290	1,726,607	2,055,068
New Hampshires	1,832,305	1,548,907	1,605,400	1,476,922	1,657,404
Barred Plymouth Rocks	579,609	422,511	383,873	372,463	481,229
Rhode Island Reds	30,864	29,962	4,506	8,248	5,239
White Plymouth Rocks	503,191	528,471	710,829	787,955	879,235
Black Australorps	....	201,189	264,847	332,501	302,865
Light Sussex	1,418,429	1,533,148	1,579,723	1,393,610	1,491,650
Crosses	1,362,807	1,401,103	1,820,941	1,992,265	2,491,254
Miscellaneous	79,983	79,540	136,849	121,563	131,840

FLOCK APPROVAL

This program continues to be a major project of the Poultry Branch, keeping twenty temporary inspectors, in addition to five permanent inspectors fully engaged during the fall and winter months. Table VII summarizes the number of flocks and birds inspected and tested for pullorum disease for the period 1952-56. Percent reaction to pullorum on first test is indicated.

All hatching eggs set in licensed hatcheries must be from approved and pullorum free supply flocks.

The expanding broiler industry, while providing an all season program for some flock owners and hatchery operators is increasing considerably the work of the branch in flock supervision.

TABLE VII

SUMMARY OF FLOCK APPROVAL 1952-1956

Year	Method of Testing	No. of Flocks	No. of Birds	Av. Size of Flocks	% Reaction
1951-52	Whole Blood	1,057	294,320	279	.261
1952-53	" "	1,078	302,599	280	.229
1953-54	" "	1,039	307,866	296	.242
1954-55	" "	1,043	319,501	309	.211
1955-56	" "	989	318,492	322	.221

TABLE VIII

SUMMARY OF FLOCK APPROVAL BY BREED 1955-56

Breed	No. of Flocks Tested	No. of Birds Tested
White Leghorns	298	112,617
New Hampshires	211	69,328
White Plymouth Rocks	112	32,926
Light Sussex	219	63,221
Barred Plymouth Rocks	74	20,232
Rhode Island Reds	6	2,560
White Wyandottes	......	....
All Other Varieties	69	17,608
Total	989	318,492

THE TURKEY INDUSTRY

Poult production in Alberta hatcheries reached an all time record in 1956 of 808,459 poults, an increase of 46.1% over 1955. Turkeys raised on Alberta farms according to Dominion Bureau of Statistics June 1st census was 715,000, an increase of 25.4%. Prices received by turkey raisers were approximately 4 cents to 5 cents per pound less than those of 1955.

Many Alberta farmers are recognizing that an efficient and well fed and managed flock of 1,000 or more turkeys, aside from providing additional income, is an excellent method of utilizing surplus grains.

TABLE IX

POULT PRODUCTION

Year	Eggs Set	Eggs Imported	Poults Hatched	% Hatchability	Poults Exported
1953	832,064	368,917	449,225	53.2%	9,337
1954	1,133,001	533,144	606,118	53.5%	8,383
1955	1,070,690	374,573	538,014	50.3%	6,905
1956	1,535,611	450,000	809,459	52.7%	8,280

Evisceration of turkeys increased markedly this year with 6,288,743 pounds being eviscerated of the total 9,176,229 pounds received by registered stations. Facilities for handling poultry meat, particularly broilers and turkeys, have increased markedly in the last two years. This is made apparent by the tremendous increase in volume of poultry eviscerated this year. Eviscerated poultry has been in demand in the larger consuming areas of Canada for a number of years. It is not inconceivable that all marketings aside from a very limited demand for undrawn poultry will be eviscerated. The eviseration, cutting-up and packaging of poultry products is perhaps the greatest development in the industry today. Today's methods of processing stimulate the demand for, and consumption of, the poultry raisers' products as much as any other factor which may exist.

TABLE X

TURKEY MARKETINGS THROUGH REGISTERED STATIONS

Year	Dressed Turkey Receipts (lbs.)	Turkeys Exported (lbs.)	Turkeys Eviscerated (lbs.)
1953	4,351,491	3,083,391	255,000
1954	7,039,110	3,737,759	1,100,000
1955	7,904,921	2,350,030	2,855,950
1956	9,176,229	3,303,453	6,288,743

TURKEY APPROVAL

The turkey approval and banding policy is being continued the same as in previous years. Specialization in breeder flocks is becoming more evident as the number of flock owners is decreasing and the average size of the individual flock increasing.

TABLE XI

SUMMARY OF TURKEY APPROVAL 1952-1956

Year	No. of Flocks	No. of Birds	Av. Size of Flock
1951-52	62	12,587	203
1952-53	79	15,721	199
1953-54	65	16,677	256
1954-55	77	22,892	297
1955-56	52	22,416	431

PROVINCIAL POULTRY PLANT

The poultry flock at the Provincial Poultry Plant comprises 1,300 Single Comb White Leghorn females and 500 New Hampshire females. During the 1955-56 season 494 Leghorn and 147 New Hampshire pullets were trap-nested under the Dominion R.O.P. policy. These pullets were produced from twenty individually mated pens. The results were as follows:

	SCWL	NH
Birds entered	494	147
Birds certified	208	44
% Certified	42.2%	30.5%
Average Production (305 days)	174	167
Average egg weight	26.3	27.0
% Mortality	7.1%	2.8%
Sexual Maturity (days)	193	171

Eggs were supplied to the Provincial Mental Institute, totalling 16,344 dozen. An additional 900 dozen Oliver strain S.C. White Leghorn hatching eggs were supplied to commercial hatcheries. Many of the pullets hatched from these eggs will be used for setting up hatchery supply flocks.

Chicks were hatched at the Provincial Poultry Plant for replacement stock and to supply day-old chicks and ready-to-lay pullets to Schools of Agriculture and to commercial poultrymen.

CHICKS HATCHED

SCWL Individual Pedigree	2,322
SCWL Pen Pedigree	1,841
SCWL R.O.P. Female	4,447
NH Individual Pedigree	1,004
NH R.O.P. Female	767
Total	10,381

640 day-old chicks were sold and 1,890 females were reared to maturity at the Poultry Plant and sold as ready-to-lay pullets. 1,490 mature birds were sold, mostly for meat purposes ,and 676 broiler chickens.

For the past 25 years the Provincial Poultry Plant has been operated as a breeding farm supplying quality stock to Alberta poultrymen. However, in recent years several private breeding farms have become well established and are equipped to supply comparable stock.

Several of those engaged in the poultry industry have been requesting the establishment of a Random Sample Test in Alberta. It was felt that the Provincial Poultry Plant might be used to greater benefit the breeders, hatcherymen and commercial egg farmers in the province by operating such a test. Therefore, pedigree breeding will be replaced by the first Alberta Random Sample Test, commencing April 1, 1957.

The purpose of the Random Sample Test is to provide comparative performance results from stock similar to that available to the poultry flock owner in Alberta.

POULTRY SHOWS

The Toronto Royal Winter Fair was again held in November with entries of dressed poultry and eggs being made by commercial firms and producers. Alberta entries made a very credible showing, with the Grand Champion dressed turkey of the show being awarded to Murray Brown a producer at Acme, Alberta. This dressed Show is considered the show-window of the industry, and exhibiting here is of great value to Alberta producers as a whole, as Eastern Canada is our major market of surplus poultry.

1956 ROYAL WINTER FAIR POULTRY PRODUCTS SHOW
(Awards by Provinces)

	B.C.	Alta.	Sask.	Man.	Ont.	P.E.I.
Firsts	5	31	9	6	33	2
Seconds	3	7	11	2	15	......
Thirds	......	1	6	......	......	......
Disqualified	......	......	4	5	......	......
Totals	8	39	30	13	48	2

	1955	1956
Total Number of Entries Received	308	186
Total Number of Exhibits Received	158	140

The Alberta Provincial Poultry Show was held in Calgary in December. Increased numbers of entries in all sections were noted. The Champion eviscerated turkey sold at the auction for a record $32.50 per pound, or $1,040 for the thirty-two pound bird.

BRANCH ACTIVITIES

The Poultry Commissioner and staff members attended the annual meeting of the Western Canada Hatchery Federation held in Edmonton. Staff members attended meetings of poultry producers, hatching egg shippers, turkey breeders, produce dealers and committees dealing with various phases of the poultry industry.

During the season 50% of the approved flocks were reinspected. Members of the staff made 323 service calls to poultry producers requesting assistance and attention. Thirty-two poultry meetings and short courses as arranged by the Extension Branch were attended by members of the Poultry Branch staff. The annual Short Course for hatcherymen, sponsored by the Poultry and Veterinary Services Branches, was held in November. This meeting was well attended by about 75 people. Topics of direct concern to hatcherymen were discussed by University and Provincial personnel. Staff members conducted 23 caponizing and culling demonstrations throughout the province.

A conference of members of the Poultry Branch and temporary inspectors was held in August. Addresses were given by Dr. A. Robblee, University of Alberta; Dr. C. H. Bigland, Veterinary Laboratory; and the Poultry Commissioner.

Mr. G. O. Johnson was transferred from the Edmonton office to Camrose, in charge of a new office for the area north of Ponoka and south of Edmonton.

Report of the Fur Farm Branch

R. W. GILLIES, Fur Farm Supervisor

General

The year 1955-56 proved to be a satisfactory year for the fur farmers of Alberta. Mink led the field when 142,792 pelts reached the trade; this being an increase of 7,802 pelts over the previous year's operation. Total pelt returns again exceeded the $2,500,000.00 mark.

Alberta's export of live fur-bearing animals is up slightly this year, which denotes that Alberta ranchers have the types and quality of livestock that is sought by fur farmers in other parts of Canada and the United States.

29 less Fur Farmer's Licenses were issued in this period. but larger operations by those remaining in the business have more than taken the place of those who have dropped by the way.

Breeding Stock

An increase of approximately 4,732 breeding mink were carried over in this period with a marked gain in the number of mutation mink retained. This is a very necessary step in the fur trade at this time as standard mink have lost much popularity and the difference between the cost of producing a standard mink pelt and what is received is unprofitable and indeed discouraging.

Extension Work

1. Field Days

Very successful and well attended field days were held at Lac La Biche, Wabamun, Edmonton, Calgary and Lacombe. The field days planned for the Lesser Slave Lake area had to be cancelled but two meetings were conducted in their place. These meetings were held at Faust and Canyon Creek and over 100 fur farmers and their wives were in attendance. A meeting in lieu of a field day was also held at Cold Lake and every fur farmer of the district attended. This is evidence that meetings specially organized and conducted by the Fur Farms Branch and the Alberta Fur Breeders' Association are appreciated by the breeders in these isolated areas.

Messrs. Len Gorham and John Caine of Edmonton, and John White of the Hudson's Bay Co., Montreal, acted as judges at all field days except Edmonton, which was capably handled by Fay Blaine of Calgary.

The Veterinary Services Branch was represented by Dr. James O'Donoghue at Lac La Biche and Lacombe, Dr. Graham Wilton at Faust and Canyon Creek, and Dr. E. E. Ballantyne, Director of Veterinary Services, attended the Calgary field day and meeting.

Others in the field day party were Don Fraser, Secretary of the Alberta Fur Breeders' Association, and Bob Gillies, Fur Farm Supervisor, who was in charge of organizing the field days.

Pertinent problems on mink nutrition, genetics, and disease were discussed at these events. Transportable judging lights were put into use for the first time this year and proved to be a terrific success.

2. **Office Extension Work**

Ranch inspections and personal visits are made by the Fur Farm Supervisor and advice and assistance rendered wherever necessary. All requests for information on fur farming in its many aspects are answered through the Fur Farms Branch. A great deal of valuable information was issued to the fur farmers this past year on the use of cooked wheat in the mink ration. This information has been well received and many ranchers are now using cooked wheat very successfully and at a great saving on their annual feed bill.

3. **Fur Breeders' Associations**

Association work in the different districts, if anything, has improved. The Fur Farms Branch assisted the Provincial Association in organizing two educational meetings, with appropriate guest speakers, in the Lesser Slave Lake and Lac La Biche districts during the past year. These meetings have created a new interest in the associations and requests have been received to make this type of meeting an annual affair.

Canada Mink Breeders continue their good work in behalf of mink farmers and Alberta ranchers have responded with the largest registration ever to C.M.B.

The Alberta Fur Breeders, with the assistance of the Fur Farms Branch, are in their second year of publishing "The Fur Bulletin". Many fine reports, as to acceptance of this Bulletin, have been received and it has proven an excellent medium of presenting the latest fur material to our Alberta Fur Farmers. Many requests for issues of this Bulletin have been received from points outside of the province.

4. **Live Animal Show**

The Alberta Fur Breeders 19th Annual Live Mink Show was scheduled for Calgary Stock Pavilion on January 9th and 10th, 1957. This was later in the season than has been the custom, but, with the Show being held at this time of the year it was hoped that more mink farmers could take time to attend.

Health

The health report of mink will be fully covered in the Veterinary Services Branch Annual Report. Only nine cases of distemper have been reported in Alberta this year. Most cases have been of a mild nature and prompt action by ranchers has cut losses to a minimum. General health conditions of the mink herds throughout the year have been exceedingly good and mortality rate has been very low. Close relationship between the Fur Farms Branch and the Veterinary Services Branch has been very beneficial to the fur farmers.

Feed

Feed still is a major problem. The catch of rough fish in our native lakes was much better this year, and this, along with the fact that some new lakes were opened for rough fish, has alleviated the local feed problem considerably. By-products from local plants and also supply of fish from the west coast appeared plentiful enough but at slightly increased prices.

Due to the high cost of horsemeat, it has practically been eliminated from the mink ration by many ranchers. By-products such as chicken waste, turkey heads, plant offal, and particularly the use of cooked wheat and oats have proven to be very successful substitutes.

Marketing

The fur market for the year 1955-56 remained quite firm and constant but the approaching marketing season appears depressed.

Chinchilla skins marketed over the past 12 months have met with some buyers resistance and pelt prices are somewhat easier. Chinchilla breeders are now adjusting their operations from a livestock market to a pelting basis and an improvement can thus be anticipated.

Foxes continue to bring low pelt prices. It would appear that the few who carried over foxes in anticipation of a return to popularity have made up their minds to pelt out. When the current pelting season is concluded, ranch raised foxes will be practically extinct in Alberta.

A New Fur-Bearing Animal Introduced to Alberta

The first Mura to arrive on the American Continent were shipped to Alberta from Germany in the Fall of 1956. Mura originated in Germany and, as far as is known, the genetic background in a secret of the German government.

Mura is a rodent, having similar appearance and traits as the white laboratory rat, but does have good fur coverage with a satisfactory underfur. This animal has to be raised in the confines of a heat regulated building. The industry in Alberta at the present time is controlled by an Edmonton syndicate who plan to sell only pelts for the manufacturing of garments.

Mura could have much potential as a fur in the lower priced garment field. The mura, as now raised, are available in a number of natural colors that could be very appealing to the fur trade. Some mura garments and stoles have already been sold in Alberta and the success of this new venture depends on the acceptance of this new article by the furriers and the buying public.

FUR FARM STATISTICS FOR YEAR ENDING AUGUST 31st, 1956

NUMBER OF ANIMALS DECLARED ON FUR FARMS IN ALBERTA 1955-56

Kind of Animal	Total No. of Animals	Av. Value Per Animal Sept. 1/55	Total Valuation
Mink, Standard	80,068	$ 15.00	$1,201,020.00
Mink, Mutation	130,904	21.00	2,748,984.00
Fox	985	10.00	9,850.00
Marten	50	15.00	750.00
Chinchilla	4,265	20.00	85,300.00
Nutria	8	3.00	24.00
	216,280		$4,045,928.00

NUMBER OF ANIMALS PELTED ON FUR FARMS IN ALBERTA 1955-56

Kind of Animal	Total No. of Animals	Av. Value Per Animal Fall 1955	Total Valuation
Mink, Standard	61,708	$ 15.00	$ 925,620.00
Mink, Mutation	81,084	21.00	1,702,764.00
Fox, Fresh Pelts	126	10.00	1,260.00
*Fox, Stale Pelts	40	8.00	320.00
Marten	14	15.00	210.00
Chinchilla	414	20.00	8,280.00
Nutria	Nil	....	....
	143,386		$2,638,454.00

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*Denotes approximate number of pelts declared in previous years but merchandised during this period.

NUMBER OF LIVE ANIMALS EXPORTED FROM ALBERTA 1955-56

Kind of Animal	Total No. of Animals	Av. Value Per Animal	Total Valuation
Mink, Standard	829	$ 50.00	$ 41,450.00
Mink, Mutation	2,492	75.00	186,900.00
Fox	Nil	....	....
Martin	Nil	....	....
Chinchilla	78	100.00	7,800.00
Nutria	Nil	....	....
	3,399		$ 236,150.00

NUMBER OF ANIMALS RETAINED FOR BREEDING STOCK IN ALBERTA 1955-56

Kind of Animal	Total No. of Aminals	Av. Value Per Animal Dec. 31/55	Total Valuation
Mink, Standard	17,531	$ 15.00	$ 262,965.00
Mink, Mutation	47,328	21.00	993,888.00
Fox	859	10.00	8,590.00
Marten	36	15.00	540.00
Chinchilla	3,773	20.00	75,460.00
Nutria	8	3.00	24.00
	69,535		$1,341,467.00

FUR FARM LICENSES 1955-56 SEASON

Mink	491
Mink and Fox	8
Mink, Fox and Marten	1
Mink and Marten	4
Mink and Nutria	1
Fox	5
Chinchilla	129
	639

Report of the Water Resources Branch

F. L. GRINDLEY, Director of Water Resources

R. E. Bailey, Chief Engineer
J. L. Reid, Supervisor, Hydroelectric Development
John Mould, Supervisor of Irrigation

Natural supplies of water from rainfall continued at a high level. While the hydrometric records for 1956 are not available, it would appear that flow in the main streams making up the Saskatchewan River was below normal. Areas to the north and east of Edmonton received too much water and Lac La Biche and other lakes rose to new all time high levels.

In the spring of 1956 the main rivers went out in an orderly manner. The only flooding reported was due to a flash thaw of snow. Some damage occurred at Jasper Place, Morinville, Two Hills, Vegreville, Calmar and Camrose. This flash thaw caused extraordinary high flow in the Sturgeon, Battle and other smaller streams. A new dam under construction on the Battle River at Forestburg (Canadian Utilities) as badly damaged by flood water.

The only damage to river control works was reported from the Milk River.

Bearberry Creek at Sundre went out quietly in the spring of 1956. This was rather fortunate because there was no well defined channel for the stream to follow after the 1955 flood. A new channel to contain the Bearberry was built in the latter part of the current year. This new canal has a very steep gradient and we expect that maintenance problems will be quite severe.

The beneficial effect of the regulation of the Bow River by storage for power developments was again noted, especially in contrast to flow in the North Saskatchewan. On December 13, 1956 the flow in the North Saskatchewan dropped to 506 cubic feet per second and on the same date the flow in the Bow River at Calgary exceeded 2,000 cubic feet per second.

There is concern over the formation of new log jams on the West and East Prairie Rivers. Some remedial action will be taken to remove these log piles but the situation is not satisfactory.

Hydroelectric Development

There were no new hydroelectric installation completions in 1956 but Canadian Utilities Limited constructed a large steam plant on the Battle River at Forestburg using river water for cooling condensers The plant is designed for an ultimate capacity of 120,000 horsepower.

Calgary Power Limited has installed a steam generating unit of 66,000 horsepower at its new plant at Wabumun Lake using the lake water for condenser cooling. This plant capacity is to be expanded in the near future. Calgary Power Limited is planning an expansion of hydroelectric facilities at its Cascade plant. The Company is also exploring the possibilities of harnessing the Brazeau River for hydro power. This river is known to have some very deep canyon sites and investigations are going forward on foundation conditions and also on water flow. Very little is known about the Brazeau and the country is still almost inaccessible. Our engineers went into the area by R.C.A.F. helicopter and landed on a sand bar in the river. They were able to utlize the newer topographical maps supplied by Ottawa and confirmed the general idea of the suitability of storage and water power sites on the river.

Assistance to Municipal Districts

Several municipal districts face serious drainage problems, especially where a sufficient outlet for drainage is not easily available. Problems also arise where the existing channels are of insufficient size to handle increased flow which has been brought about by intensive farming and improved roads. The government has rendered assistance to municipal districts under the provisions of Part IV of The Water Resources Act and Section 270 of The Municipal Districts Act. This assistance is given under the following conditions:

(1) The drainage problems involve both roads and lands that are lacking in drainage.
(2) The municipal district becomes the implementing authority for the project.
(3) The government pays one-half of the cost up to a stated maximum following receipt of certified payment vouchers.

Several municipal districts have undertaken the correction of their most pressing drainage problems under this assistance policy. Similar aid has been rendered to drainage districts and towns.

Eleven financial aid projects were undertaken during 1956. These pertained primarily to flood control and drainage projects undertaken by rural municipalities. Engineering assistance was extended to the municipality by The Water Resources Office in some cases; in others consultant engineers were engaged by the municipality. Not all of these projects have been completed, but on the basis of a fifty-fifty financial assistance, the cost to the Government will approach $90,000.

General Inspection Services

Approximately 500 inspections were made of small drainage problems. These inspections are made without charge and are worthwhile because they prevent what are essentially minor problems from getting out of hand.

Water Master Service

We again provided water master service for Sage Creek in the extreme southeast corner of the province. This small stream rises on the Cypress Hills in Alberta and flows into the United States. The water master service is given in order to preserve amity in this area where the available water is all used by both Canadian and American ranchers. In the year 1956 most of the Canadian irrigation demands were satisfied and the Americans also received an adequate supply.

This type of service may eventually be required on all of the Cypress Hills streams. It is not an easy job to allocate the flow of these streams beacuse everyone wants the water at the same time because of short duration of flow. In years of high flow the problem is simple but when water is in short supply the solution of the problem is not easy.

Other Cypress Hills streams are Mackay Creek, Ross Creek, Sevenpersons Creek, Manyberries Creek, Irrigation Creek, Canal Creek, etc. Nearly all of these streams run out on to relatively flat areas where the water is spread for flood irrigation by soakage.

Lesser Slave Lake

Complaints have been received from farmers who have holdings around the south margin of the lake that their hay lands are under water. Recent levels indicate that the level of the lake is slowly receding.

Water Supply for Irrigation

All of the irrigation districts received adequate supplies of water for irrigation in 1956. It should be noted that the irrigation area in general also received adequate rainfall.

Very little irrigation water was used by The Macleod Irrigation District. The project should be retained for use in drought years which may come at any time. It is of interest to note that a critical water shortage condition occurred in the early part of 1956 in Southern Alberta. Rains came in time to prevent deterioration of the crops. Rains continued at favorable intervals through the growing period. There was considerable hail damage.

Special Areas

The Prairie Farm Rehabilitation Office and Ducks Unlimited built several medium sized projects in the Special Areas and these will all be extremely valuable. There was some irrigation by pumping but rainfall was quite adequate for the existing agriculture of that area.

Ducks Unlimited (Canada) report that they have created storage for 700,000 acre feet of water. This storage includes all of their projects in Alberta since the inception of their work. This water is used for wild life preservation, livestock and pump irrigation.

Pembina River Flood Control Investigations

There was no flooding in the Pembina River valley in 1956 although there was a heavy snowpack on the headwaters. A careful check was maintained at Drayton Valley and Entwistle during the spring runoff.

As a result of a report received from Mr. Tom Blench, Professor of Civil Engineering at the University of Alberta, we have made plans to investigate the possibility of using a system of co-ordinated "cutoffs" in the Manola to Jarvie section of the valley. This system of cutoffs will reduce flood peaks in the threatened area and apply corrective measures where they will be most useful. Mr. Walter Solodzuk, Civil Engineer on the Water Resources staff, is in charge of this investigation.

Cluny Erosion Problem

In 1956 an inclined chute system was built to contain water that has caused erosion near the headquarters of the Indian Agency at Cluny. This problem is aggravated by the fact that part of the flow comes from flowing wells and serious icing takes place in winter. The eroded banks were graded in 1955 and the Manager of The Western Irrigation District carried out further grading work and constructed the ground flume in 1956. As no other governing body would assume responsibility, the work was supervised and paid for by The Department of Agriculture. An attempt should be made in 1957 to re-grass the eroded slope.

Little Bow Canal

The canal which diverts water from the Highwood River to the Little Bow River is still operated by The Water Resources Office for stockwatering and domestic purposes.

In 1956 with the co-operation of the Bridge Branch (Department of Highways) three small bridges were built over the canal near High River. These bridges replaced structures that were in serious disrepair. The main headgate on the Highwood is in bad shape and a new structure will be required in the very near future.

Prairie Provinces Water Board

On August 6 and 7, 1956, a meeting of the Board was held at Vauxhall. Most of the discussion revolved around long range policies such as precipitation in the Rockies, sedimentation surveys and expansion of hydrometric services.

A very instructive airplane trip was arranged by the late Dr. L. B. Thomson (Director of P.F.R.A.). This trip covered practically every major irrigation project in Southern Alberta including the St. Mary River dam. Dr. Thomson also arranged for a visit to the experimental plots at Vauxhall. Dr. Thomson also conducted a tour of reclaimed pastures north of Vauxhall. These tracts were spoiled by seepage and alkali but have been reclaimed by tile drainage. The area is now first class pasture.

The death of Dr. Thomson in September, 1956, came as a shock and he will be sorely missed.

Construction

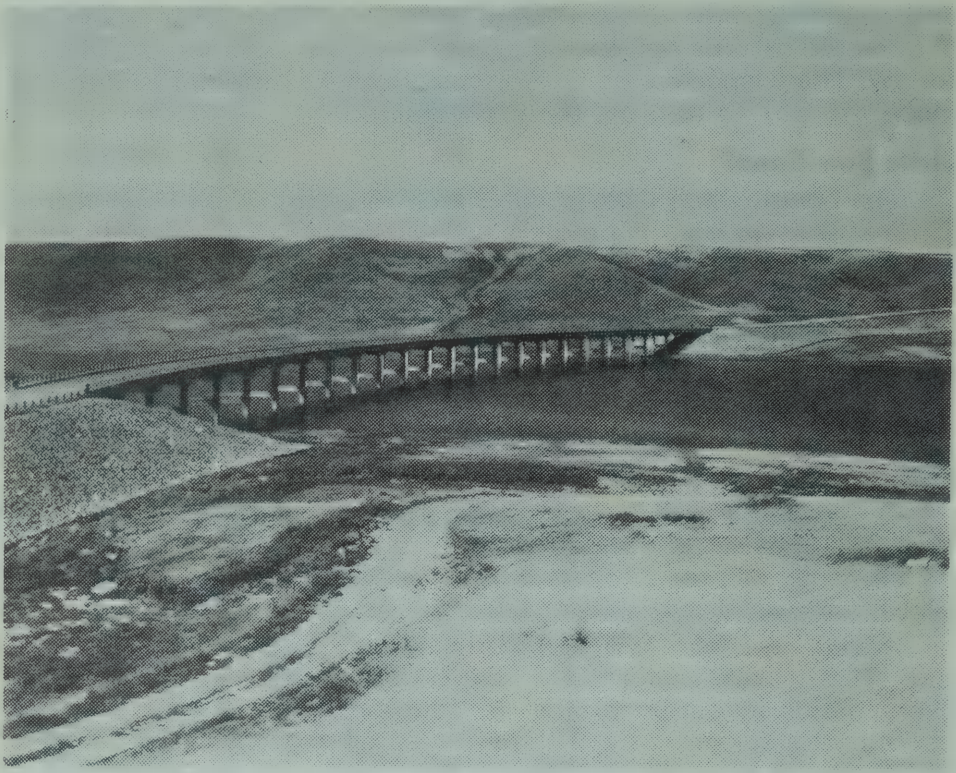
During the 1956-57 fiscal year the Construction Office experienced a very active year. Although the work carried out on the St. Mary and Milk River Development was mostly in the nature of small clean-up jobs, the cost of the work done on the Bow River Development was in the vicinity of $1,000,000. In addition to this, design work was completed and construction begun on the Kleskun Hill Flood Control Project near Grande Prairie, and the McLennan—Girouxville Canal.

Following is a summary of expenditures and work done on the projects as listed:

1. St. Mary and Milk Rivers Development

(a) Carry-over Contracts

Five construction contracts were carried over from the 1955-56 season and completed in 1956. These included the completion of Chin Dam No. 1 and the West Medicine Hat Distribution System. The latter contract having been started in 1954. Construction of concrete turnout gates to the Taber Irrigation District was also completed in 1956, as was the work on the West Horsefly Drain. The West Horsefly Drain was built through a low lying area south of Taber to drain the area into Horsefly Lake Reservoir. The remaining carry-over contract was that for the construction of eight ditchrider houses built at various locations throughout the irrigation area.



The bridge over the Chin Reservoir was completed in 1955. The 1,508 foot long structure is built on approximately a 3 degree curve, and will accommodate speeds up to 40 miles per hour.

The Raymond chute drops water 65 feet over it's 570 foot length. It carries a maximum discharge of 3,000 cubic feet per second.

(b) **New Contracts**

Four new contracts were awarded in 1956. These included a contract for the building of 100 Texas Gates installed along the banks of the canals to provide access for operation and maintenance purposes. A contract was also awarded for the construction of two rock riprap chute structures to carry water down a vertical drop of 16 feet in the Forty Mile Coulee area. These drops are a relatively new type of construction on the project but have been used with considerable success on other projects.

The original drains installed through the crest of the drop structures on the main canal have been found inadequate for draining the canal at the end of the irrigation season. Construction was therefore begun on the installation of by-pass drains around these structures.

A contract was also awarded for the construction of six Ditchrider houses located throughout the District.

Of the above contracts the last two were not completed and work on these will be carried over to the 1957-58 construction season.

(c) **Construction Work by Water Resources Staff and Equipment**

Work carried out by Water Resources Staff and Equipment includes such items as additional riprap on the main canal drop structures between Raymond and Cin; the filling in of borrow pits and general clean-up of unsightly works along the main canal; construction of surplus water and drainage spillways; recaulking of joints in chute structures; cleaning out of main canal because of excessive weed growth and silt deposition, and the seeding to grass of canal banks.

In addition, considerable Water Resources labour went into work pertaining to the Ditchrider houses for which the Government is responsible. A major portion of this work consists of the installation of sewer and water pressure systems and the construction of garages, sidewalks, fences and the general preparation of the grounds.

Work was also continued on spillway facilities on Lateral "K" of the Big Bend system. This was necessitated to avoid damage to farm land resulting from spill water. Lateral extensions were also constructed in some areas where the sale of land necessitated deliveries in addition to those originally built, and work was done on other existing deliveries to make them serviceable for the 1956 irrigation season.

It has been found that the check structures on the main canal are cumbersome from an operational point of view. A special gate was therefore designed and fabricated and work was started on the alteration of these checks to facilitate easier operation.

The last work undertaken in the year by Water Resources labour was the repairs to two of the main canal drop structures. These structures were found to be badly undermined and the chute slab was therefore removed and reconstructed. Similar repairs will have to be carried out on at least one more similar structure next spring.

Considerable work, similar to that described above, has yet to be done during the next year in order to put the District into a condition suitable for efficient operation. One item, in particular, which is to receive consideration is that on an adequate drainage system throughout the District.

(d) Expenditures

Commitments on new contracts in 1956	$100,594.00
Expenditure on construction contracts in 1956 including carry-over of contracts from 1955	219,036.36
Contract labour and equipment rentals	20,596.14
Water Resources labour and equipment operation	92,370.37
Equipment purchases	18,896.63
Material purchases	84,845.57

2. Bow River Development

(a) Carry-over Contracts

Four construction contracts were carried over into the 1956 season from 1955. These consisted of one main canal contract for six miles of canal let in 1955, and two distribution system contracts for sixty-five miles of canal to irrigate approximately 16,700 acres. Of these the contract for Distributary District "C" for 11,900 acres was let in 1954 and completed in 1956, and the contract for Distributary "D" and "E" for 4,800 acres was let in 1955 and will be carried over into the 1957 season. The fourth carry-over contract is that awarded for the construction of staff residences and has been completed this year.

(b) New Contracts

Three contracts were awarded in 1956 for the construction of twenty-five and one-half miles of main canal. Of this, the contract for a ten mile reach was completed during the year. Contracts for the remaining fifteen and one-half miles will be carried over and completed in 1957.

One distribution area contract was awarded in 1956, that being for the construction of Distributary "F" and "G". This work was completed in October and involved forty-two miles of canal for the irrigation of some 5,500 acres.

Other contracts awarded in 1956 included two bridge contracts for the construction of 27 Precast Concrete bridges over the main canal and distribution mains, and the letting of a contract for the construction of three staff houses. Of these the bridge contracts will be completed this fiscal year.

(c) Expenditures

Commitments on new contracts in 1956	$1,034,524.00
Expenditure on contstruction contracts in 1956 including carry-over of contracts from 1955	787,341.37
Contract labor and equipment rentals	1,988.24
Water resources labor and equipment rentals	49,247.14
Equipment purchases	8,122.69
Material purchases	317,186.95

(d) General

This coming season will see about 35,000 acres "under the ditch" of which about 31,000 acres will be ready for irrigation during the coming irrigation season as far as construction is concerned; however, because of the transition period required for a farmer to convert from dry land farming to irrigation farming, only about 12,600 acres will actually receive water in the next year.

Construction work pertaining to the headquarters of the project is presently nearing completion. An office building, a 100 foot by 40 foot Quonset type workshop and storage building and five houses are now completed. One additional house is under construction and landscaping has been done in preparation for the planting of lawns and shrubs next year. Radio communication facilities are also being constructed to facilitate contact between headquarters and ditchrider units during operation of the project.

The main portion of work on the Bow River Development in the 1957-58 season will be comprised of the completion of five contracts carried over from 1956 and the commencement of new construction on Distributary systems "H", "J" and "K". Work will also be started on the drainage systems as well as numerous bridges, texas gates and three houses.

4. **Heart River Project**

The Hart River Project was originally initiated to provide a supply of domestic water to the McLennan-Girouxville are in northern Alberta, to help alleviate flooding in the High Prairie-Grouard area, and to facilitate water conservation and the stabilization of Lake Winagami and Lake Kimiwan. Other assets have also arisen out of the project such as potential hydro-electric power and recreational facilities. The recent formation of a provincial park by the Provincial Parks Department is a direct result of the benefits of the project.

Construction of the scheme began in 1949 and has continued intermittently since that time. This year a contract was let for the building of the final stage of the project, namely the McLennan-Girouxville canal. This canal will supply domestic water to the towns of Donnelly, Falher and Girouxville as well as domestic and stock water for those farms along the route. The canal will also provide a much needed outlet for runoff and flood waters in the spring which at present inundate many acres of farmland as well as the main highway. This canal will be completed in 1957 at an estimated cost of $130,000.

Expenditure on St. Mary-Milk Rivers Development—Construction Vote

1949-1950	$ 94,762.23
1950-1951	1,682,517.42
1951-1952	2,367,016.64
1952-1953	3,907,921.62
1953-1954	3,282,309.06
1954-1955	2,963,321.75
1955-1956	982,858.31
1956-1957 (estimated to Mar. 31/57)	1,100,000.00
	$16,380,707.03

Expenditure on Bow River Development (Western Block)—Construction Vote

1954-1955	$ 644,094.08
1955-1956	694,738.35
1956-1957 (estimated to Mar. 31/57)	1,910,500.00
	$ 3,249,332.43

Groundwater Activities

General

There has been some indication of awakened interest in groundwater in the past year as evidenced by more frequent inquiries both domestic and industrial. The industrial interest was apparent at a meeting in Calgary during the summer of the Petroleum and Natural Gas Conservation Board regarding the use of groundwater for purposes of second recovery by means of flooding to re-pressure the cardium formation in the Pembina Oil Field. In the matter of domestic interest, 1956 saw the beginning of general anxiety on the part of many farmers in the Etzikom area with regard to diminishing artesian pressure in their wells. More people are seemingly becoming aware of the importance of groundwater to a growing population.

Conditions

Conditions which largely affect groundwater storage such as precipitation, snow melt and seepage, have been generally satisfactory. Precipitation in the Edmonton area of the year was 20.13 inches which is slightly above average. Lake levels are sometimes used as a "yardstick" in determining water table fluctuation and judging by the relatively high lake levels in the province the past year, water tables are thought to be satisfactory.

Inspections

Approximately one dozen of the hundred and twenty inspections carried out were connected with groundwater, the remainder being mostly surface water complaints. Periodic levels were taken on about fifteen major lakes in the interests of both surface and ground water.

Statistics

Under provisions of Section 10 of The Ground Water Control Act and subsequent regulations, water well drillers throughout the province were continued to be licensed and a file kept of all reports submitted by them. The number of licensed drillers was down for the year as was the number of reports received.

Number of known drillers	140
Number of licensed drillers	93
Number of drillers who submitted reports	20
Number of reports submitted	170

Publications

Articles in "Within our Borders" which were copied by other publications—

(1) July 1956, page 6—"Water Branch Duties range widely from Road Ditches to Dam Sites"

(2) July 1956, page 1—"Irrigation in South brings New Crops to Fore"

(3) November 1956—"Canals Replace Water-by-the-Barrel"

DRAINAGE DISTRICTS IN THE PROVINCE OF ALBERTA

Drainage District	Date of Formation	Acres Benefited
Holden	April 15, 1918	12,430
Dickson	April 22, 1919	2,880
Daysland	June 19, 1919	15,000
Hay Lakes	February 17, 1922	2,390
Cygnet	August 18, 1948	4,000
Manawan	November 19, 1948	3,841
Cameron	July 29, 1949	916
Bearhills	April 20, 1954	1,190
Big Hay Lake	July 15, 1956	3,000

Note—Big Hay Lake Drainage District will start construction in 1957.

DEVELOPMENT OF IRRIGATION PROJECTS IN THE PROVINCE OF ALBERTA

Name of District	Year of Formation	Source of Supply	Irrigable Acreage at Dec. 31/1956
St. Mary & Milk Rivers Development	1899	St. Mary River and Reservoir	82,000 old AR & I. lands
			89,713 new lands
Magrath Irrigation District	1919	St. Mary River and Reservoir	6,985 acres
Raymond Irrigation District	1920	St. Mary River and Reservoir	15,130 acres
Taber Irrigation District	1915	St. Mary River and Reservoir	21,500 acres old lands
			10,600 acres new lands
United Irrigation District	1921	Belly River	34,005 acres
Mountain View Irrigation District	1923	Belly River	3,600 acres
Leavitt Irrigation District	1943	Belly River	4,631 acres
Aetna Irrigation District	1945	Belly River	8,303 acres
Eastern Irrigation District	1904	Bow River	250,000 acres
Western Irrigation District	1904	Bow River	50,000 acres
Bow River Development	1951	Bow River	55,000 (old C.L. & I.)
(originally S.L. & I. Co.)	1907	Bow River	37,000 new lands
Bow River Development (Provincial Section)	1951	Bow River	35,000 Enchant area
Lethbridge Northern Irrigation District	1920	Oldman River	96,135 acres
Ross Creek Irrigation District	1949	Gros Ventre Creek	2,069 acres
Macleod Irrigation District	1940	Oldman River	3,000 acres

REPORT OF THE COLONIZATION MANAGER

(P. M. SAUDER)

THE LETHBRIDGE NORTHERN COLONIZATION MANAGER

No additional sale contracts were issued in the Lethbridge Northern Irrigation Districts in 1956. During the year, 12 contracts were paid up, making a total of 1,075, or 97.7% paid in full. The owners of these lands will not have any more capital payments to make and will only have to pay the water service charge in future. Only 25 contracts are not paid in full and most of these are nearly paid up. The results would have been better if the contract holders could have marketed all of their wheat. The following table shows the standing of the contracts at the end of 1955 and 1956:

	1955	1956
Total number of Contracts	1,100	1,100
Contracts paid in full	1,063—96.6%	1,075—97.7%
Contracts 50% or more paid	29— 2.6%	19— 1.7%
Contracts 25% to 50% paid	4— 0.4%	3— 0.3%
Contracts less than 25% paid	4— 0.4%	3— 0.3%
Contracts in arrears for interest	17	8
Contracts in arrears for rates	14	4

Some additional payments will be made on contracts, arrears of water rates and interest before spring.

In 1956, financial assistance given by way of loans to Water Users was limited to loans for beet labour and hauling. The total amount loaned in 1956 was $258,846.70 as compared with $347,088.68 in 1955. The Secretary-Treasurer of the Lethbridge Northern Irrigation District looked after the office work in connection with the loans and the District bore the expense of this service.

Each year for several years, some of the sugar beet workers have taken other employment inside and outside of the district, and others become tenants and purchasers. These were replaced by new immigrants, but the number of immigrants has decreased very much in the last two years. Only about 250 family groups or about 900 workers were left in the district in the spring of 1956, and only 25 families of church sponsored groups of Dutch, Austrian and German immigrants came to the L.N.I.D. in 1956. Indian groups from Northern Alberta and Saskatchewan were also placed with 39 growers, but the total labour available was considerably short of requirements. The situation was very critical during the beet harvest. Mechanical thinning increased from 1,683 acres in 1955 to 2,249 acres in 1956. Use of mechanical harvesters increased from 4,226 acres in 1955 to 5,779 acres or 46% of the crop in 1956. This expansion of mechanization is expected to increase and will in time replace most of the manual labour for thinning and harvesting. Despite the hardships and disappointments of the past year to some growers, favourable extraction rates, increases in the sale price of sugar and other factors made interest keen and returns highly satisfactory to the growers.

The following schedule gives statistics for sugar beet crops on the L.N.I.D. for the years 1950 to 1956 inclusive:

Year	No. of Growers	Acres Harvested	Tons Harvested	Tons Per Acre	Sugar Content	Total Price Per Ton
1950	512	12,687	144,878	11.42	16.8%	$18.45
1951	515	11,730	118,533	10.11	14.7%	14.34
1952	514	13,148	165,299	12.57	17.3%	16.08
1953	510	12,516	144,641	11.56	17.3%	14.23
1954	514	13,184	152,869	11.60	15.7%	13.12
1955	511	12,988	146,390	11.27	17.7%	15.29
1956	491	12,545	151,551	12.08	17.2%	*

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*Total price will not be known until all sugar is sold, but it will no doubt be higher than the 1955 price.

Sugar beets are, of course, the main specialized irrigation crop on the L.N.I.D., and have done more to help the water users to become successful farmers than any other crop. Other crops such as potatoes, peas, turnips, carrots, cabbage, beans, parsnips, strawberries, cucumbers, corn, mustard and gladiolus are also grown, but in 1956 only 1,248 acres were used for these crops as compared with 1,849 acres in 1955 and 1,868 in 1954. The decrease in acreage was due to the scarcity of labour. Feeding and marketing of live stock has also for some time been an important and profitable branch of farming on the L.N.I.D. and at the present time 22,537 head of cattle and 4,583 head of sheep are being fed on by-products. Despite the scarcity of labour and high costs, the production on the L.N.I.D. in the year 1956, was fairly good.

The report of the Provincial Auditor for the year ended December 31st, 1956, will contain statement of advances made on behalf of the Lethbridge Northern Irrigation District, and Assets and Liabilities of the Lethbridge Northern Colonization Manager.

It is with regret that we record the passing of Dr. L. C. Charlesworth in Edmonton last fall. Doctor Charlesworth was, for several years, the Director of Water Resources, Chairman of the Irrigation Council, Official Trustee of the Lethbridge Northern Irrigation District and Lethbridge Northern Colonization Manager. He piloted the L.N.I.D. through many financial difficulties.

THE NEW WEST IRRIGATION DISTRICT MANAGER

In the spring of 1952, the irrigation works belonging to the New West Irrigation District were transferred to the Minister of Agriculture of Canada. The water users now receive water from the Prairie Farm Rehabilitation Administration at the same price as the water users in the old Canada Land and Irrigation Company tract. Most of the lands are privately owned by the persons who farm them. At the end of 1952, six farmers owed 3,433.68 to the Manager on six quarter sections of land. At the end of 1956, two farmers owned $600.16 on two quarter sections of land. It is expected that these will be paid off in 1957.

THE ST.MARY AND MILK RIVERS DEVELOPMENT COLONIZATION MANAGER

As the report submitted for 1955, contained a history of the St. Mary and Milk Rivers Development and a summary of the business of the Colonization Manager for the years 1950 to 1955 inclusive, this report will be confined largely to the colonization business carried on during the year 1956.

As Mr. G. S. Brown was Assistant Manager and Assistant Colonization Manager of the St. Mary and Milk Rivers Development, and needed more time to look after maintenance and operation, Mr. R. S. Simmons was appointed on September 1st, 1956, Assistant Colonization Manager, and Mr. Brown was released from colonization work. Mr. Simmons will spend full time on colonization work on the Bow River and St. Mary and Milk Rivers Developments.

In July, 1956, Mr. D. T. LeBaron, of the Veterans' Land Act and Soldier Settlement of Canada Administration, resigned from the Colonization Manager's Advisory Committee and was replaced by Mr. John F. Horne of the same organization. Mr. R. A. Simmons has also acted on the Advisory Committee since his appointment, and during the absence of Mr. P. M. Sauder, has acted as Colonization Manager and Chairman of the Advisory Committee.

During the year 1956, one hundred and one applicants for land were examined and land was allotted to nine veterans and thirteen non-veterans. Fourteen of these were allotted quarter sections and eight received half sections.

Altogether, eighty-nine parcels of quarter and half section lands were sold to veterans of World War II, and forty-nine parcels of quarter and half section lands were sold to non-veterans in the years 1951 to 1956, making a total of one hundred and thirty-eight new settlers. At the end of 1956, there were a large number of applicants who were qualified for land settlement, but had not been placed because lands were not available or ready for allotment. A number of parcels will be ready and available for allotment early in the year 1957. Some of the lands are only suitable for raising live stock hence a delay is necessary until an applicant shows up who has live stock and will take land that requires land levelling to make it suitable for irrigation.

In view of the fact that there is no immediate possibility of obtaining contracts for sugar beets or canning vegetables, and the land is rough and rolling, it was decided that most of the lands lying Northerly from Seven Persons should be allotted in half sections to settlers interested in mixed farming, with the raising of live stock as the main endeavour.

The total allotment of land to date does not appear large on a project the size of the addition to the St. Mary and Milk Rivers Development. However, this is due to the fact that the new main canal was not available for use until 1954, and even then there were interruptions in the service, and much land had to be levelled before it was suitable for irrigation.

The majority of the new settlers did not have enough capital to purchase land from private owners and to start farming without the Veterans' Land Act assistance. By letting them have land at a low price, they were given an opportunity to get started and it is hoped that at the end of ten years they will be well established.

Ultimately the Colonization Manager will allot over 300 quarter sections in the area between Taber and Medicine Hat.

In addition to the increase in population in the new areas due to new settlers placed by the Colonization Manager, there has been an increase due to the sale and transfer of privately owned lands. Non resident owners have also built buildings and moved onto their lands.

School lands are not available for settlement by the Colonization Manager and must be sold by public auction. Four quarter sections of school lands with irrigable areas were sold by the Director of Lands in February, 1952, four in February, 1953, two in 1954, sixteen in 1955 and seven in 1956, making a total of 33 quarter sections.

The Colonization Manager is responsible for signing up the private owners of land and the purchasers of land from the Colonization Manager for a water supply. A fieldman canvasses all the private owners. Each owner agrees to pay ten dollars ($10.00) per irrigable acre for a water right, or the right to obtain water service, and to pay the cost of the maintenance and operation each year. The sign-up in the Low Line Canal system has been close to one hundred per cent of the owners of land. At the end of 1956, 756 private owners and purchasers from the Colonization Manager (i.e. individuals, partners, corporations and estates) had applied for water for 1,494 parcels (i.e. quarter sections or less) and had agreed to pay the water charges.

While the grain crops were good in 1955 and 1956, much of the grain has not been marketed. Many of the farmers, therefore, have not the necessary cash to purchase seed, extra equipment and live stock to get into mixed farming under irrigation. It takes time and capital to change from straight wheat farming to mixed farming under irrigation. High prices for equipment, materials, and wages increase the difficulties for the farmers with very little capital. Even those who have credit or cash available are handicapped because of the difficulty of obtaining hired help. Those who had started to raise or feed cattle before irrigation became available are making good progress. The dry land settlers are succeeding under irrigation. Some farmers with the necessary cash will have no difficulty in adjusting themselves to the changed conditions.

In order to provide guidance and advice for new settlers, the Department of Agriculture located a District Agriculturist at Taber. There is also an Assistant District Agriculturist at Taber. The District Agriculturist at Medicine Hat now also has an assistant.

Land levelling was continued in 1956, but no new equipment was purchased. The Government equipment improved 1,200 acres of land on 23 quarter sections. This brought the work done with Government equipment to date up to 10,415 acres on 238 parcels of land. Privately owned equipment improved 1,500 acres on 48 quarter sections of land in 1956. This brought the total work done by privately owned equipment to date up to 5,900 acres on 143 quarter sections. The land levelling done since starting on the project in 1950 totals 16,315 acres on 381 quarter sections. The land levelling equipment also did 55 jobs other than land levelling in 1956.

No charge is made for the survey of the ditches, but the Colonization Manager pays for the land levelling done on land owned and allotted by him. He adds the cost of land levelling to the selling price of the land but if adding the full cost makes the selling price too high for the quality of land the price is reduced. The Government therefore, is really giving some assistance in this work.

The Colonization Manager still checks and approves all expenditures for rights-of-ways. Mr. Andrew Graham, the S.M.D.R. Fieldman, visits the owners and obtains an agreement for the settlement of his claim. This is used as the basis for settlement and is forwarded to the Director of Water Resources for approval. A cheque for the amount to be paid to the owner is then issued. During 1956, $41,308.77 was paid to settle 75 claims. In each case a waiver of any further claims was obtained. During 1956, one large claim was referred to a Board of Arbitrators. Evidence was taken and the land was inspected by the Board, but the award has not been received.

When the works for the supply of water to any portion of the addition to the St. Mary and Milk Rivers Development are completed and tested, these works are taken over, operated and maintained by the Manager of the St. Mary and Milk Rivers Development.

The Colonization Manager collects the water right payments and transmits them to the Deputy Provincial Treasurer. The charge which, as stated above, is ten dollars ($10.00) per irrigable acre may be paid in cash by a date designated by the Minister of Agriculture, or a down payment of one dollar ($1.00) per acre may be made and the remainder, together with interest at the rate of three and one half per cent per annum on the unpaid balance, may be paid in one dollar per acre annual installments starting on November 30th in the year following the initial payment.

When planning the addition to the St. Mary and Milk Rivers Development, it was realized that the farmers would not get much benefit from irrigation during the first two years and would not be in a position to pay water rates right from the very start because it takes two or three years to change from dry land farming to irrigation farming. It has, therefore, been decided and provision has been made, that the Alberta Government will pay the service charge for two years of service. In 1956, it was agreed that this water service could be spread over a longer period.

The industrial development resulting from irrigation is contributing in a very substantial measure, to the general welfare of Southern Alberta and to the country as a whole. The main developments of this nature include sugar factories, canning factories, pickling plants, seed cleaning plants, alfalfa meal mills, commercial apiaries, cheese factories, creameries, plants for processing dairy and poultry products and other sundry enterprises resulting directly or indirectly from irrigation and increased trade.

There is an opportunity to increase the specialized crops. Some seed grain, grass seeds and vegetable seeds are produced in the irrigated area, but there should be more of it. Many farmers are quite capable of growing special crops, for while a good water service is essential, the success of the farmer is also dependent on a market for his products. Every effort should be made to determine what can be produced and sold at a profit.

The Field Crops Branch of the Alberta Department of Agriculture, at Lethbridge has checked on the commercial vegetables and special crops grown in Southern Alberta south of the Bow and Saskatchewan Rivers in 1956. The following summary is submitted.

Kind	Acres	Kind	Acres
Asparagus	20	Parsnips	50
Beans (Snap)	450	Peas (Canning)	5,630
Beans (Dry)	1,200	Peas (Seed)	2,400
Beets (Table)	60	Potatoes (Table)	5,200
Cabbage	130	Potatoes (Seed)	500
Carrots	140	Pumpkins (Market)	5
Caulifower	25	Pumpkins (Canning)	100
Corn (Canning)	3,950	Onions	35
Corn (Cob Trade)	300	Tomatoes	25
Cucumbers	190	Turnips	310
Lettuce	5	Sugar Beets	36,150*
		TOTAL	56,875

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*This area produced 464,421 tons of sugar beets, making a yield of 12.85 ton per acre.

The report of the Provincial Auditor for the year ended November 30th, 1956, will contain statements of advances made on behalf of the St. Mary and Milk Rivers Development, and the Assets and Liabilities of the St. Mary and Milk Rivers Development Colonization Manager.

BOW RIVER DEVELOPMENT COLONIZATION MANAGER

By Order-in-Council 1389/52, dated September 22nd, 1952, the Minister of Lands and Forests was granted authority to sell to the St. Mary and Milk Rivers Development Colonization Manager, such vacant land as may be required from time to time in the Bow River Development for land settlement.

By Order-in-Council 1390/52, dated September 22nd, 1952, the St. Mary and Milk Rivers Development Colonization Manager was authorized to sell such lands which are determined by the Advisory Committee, consisting of a representative of the Veterans' Land Act, a representative of the Alberta Department of Agriculture, a representative of the Department of Agriculture of Canada, the Director of Lands in the Department of Lands and Forests and the Colonization Manager, to be suitable for the establishment of veterans, according to certain terms and conditions laid down in this Order-in-Council. Under this authority, the Colonization Manager advertised and received applications for seventeen parcels of land near the townsite of Hays, twenty-two miles East of Vauxhall in the Bow River Development, in 1952. During 1952, twenty-two veterans were examined and parcels were allotted to fourteen. Additional applicants were examined early in 1953 and the other three parcels were allotted in time for the purchasers to sow a crop in the spring of 1953.

By Order-in-Council 235/54, dated February 15th, 1954, P. M. Sauder was appointed Bow River Development Colonization Manager, and G. S. Brown was appointed Acting Bow River Colonization Manager. By the same Order-in-Council, the Colonization Manager was authorized to allot and sell lands in the Bow River Development in the same manner and on the same terms and conditions as provided by Order-in-Council 308/51, dated February 27th, 1951, 541/51, dated April 24th, 1951, and 636/52, dated May 5th, 1952, in the St. Mary and Milk Rivers Development. The

Minister of Lands and Forests was also granted authority to sell to the said Bow River Development Colonization Manager, such vacant and available public lands as might be required from time to time for land settlement, right-of-way and other irrigation purposes subject to such terms and conditions as the Department of Lands and Forests might deem necessary.

The Bow River Development Colonization Manager was further charged as follows:

(1) With the responsibility of canvassing the owners of the private lands in the Bow River Development project and entering into agreements for the supply of water on farms approved for that purpose. This Order-in-Council rescrinded Orders-in-Council 1389/52, and 1390/53 dated September 22nd, 1952, provided that Order-in-Council 235/54 cover the whole area in the Bow River Development, and that sale agreements issued under authority of Oder-in-Council 1390/52 be replaced by agreements issued under authority of this Order-in-Council.

(2) To purchase the necessary rights-of-way for the main distributories and for small ditches over quarter sections that do not receive any water for irrigation.

(3) To purchase tax recovery and other lands in and adjoining the Bow River Development owned by the Department of Municipal Affairs and the local municipal district, for land settlement, right-of-way or other irrigation purposes at the same prices and under the same terms and conditions as prevail for the St. Mary and Milk Rivers Development Colonization Manager.

By arrangement, the Bow River Development Colonization Manager discontinued canvassing and signing up the owners of the private lands in the Bow River Development at the end of June, 1956, and since then, this work has been carried on by Mr. Earl Dean, the Manager of the Bow River Development, at Enchant. The Bow River Development Colonization Manager had at that time signed up a total of 160 quarter sections.

The Bow River Development Colonization Manager also discontinued purchasing of rights-of-way at the same time. He had at that time completed agreements for right-of-way for 38 quarter sections.

On June 25th, 1953, Honourable James G. Gardiner, the Minister of Agriculture of Canada, and the late Honourable D. A. Ure, the Minister of Agriculture of Alberta, by written agreement, agreed to participate in the construction of the Bow River Development and outlined the responsibility of the two Governments in the construction and development of the Bow River irrigation project. The canvass for the sign up of the owners of the private lands in the West Block was started early in September, and construction of the irrigation works was started shortly after.

Most of the Crown and Municipal lands in the West Block had been rented on long term leases and the lessees had to be given a year's notice of cancellation so that the land could be transferred to the Colonization Manager. There was, therefore, some delay in obtaining title to these lands.

Ever since construction started, applications to purchase land have been coming in, but no action could be taken as there was no land available for allotment. When it became evident in the fall of 1956 that the Bow River Development Colonization Manager would receive title to some 46 parcels of land, a start to examine the applicants was made. During the fall of 1956, 98 applicants were examined by the Advisory Committee. Eight veterans and sixty-six non-veterans were reported as qualified for allotment of land. Allotments will be made early in 1957. As there is no chance to market sugar beets and vegetables from this area, most of the farmers plan to go into mixed farming with live stock as the main product. This means that each farmer should have a fairly large area of irrigable land to provide pasture and hay. On this account it is going to be difficult to arrange economic units because many quarters have small irrigable areas, and the lands available do not lay in a solid block. A comparatively large amount of land levelling will also be required in this area, which will increase the price of the land. Many of the former tenants have applied to purchase lands and will be given first consideration. Most of the land will, therefore, be sold to local residents.

As Mr. Brown wished to be relieved of his duties as Assistant Bow River Development Colonization Manager, Mr. R. A. Simmons was appointed in that capacity and took over on a full time basis on the first of September, 1956.

Report of Agricultural Extension Service

STAFF

Headquarters

F. H. NEWCOMBE, Director
S. S. Graham, Assistant Director
L. W. Rasmusson, Supervisor of District Agriculturists
Mrs. V. G. Macdonald, Supervisor, Home Economics Division
Miss B. J. Lewis, Nutrition Specialist
Miss H. Moseson, Clothing Specialist
C. A. Cheshire, Extension Engineer
J. L. Reid, Assistant Extension Engineer
R. E. English, Departmental Agricultural Statistician

DISTRICT OFFICES

Office	Agriculturists	Home Economists
Athabasca	G. L. Godel	
Assistant	W. C. Yule	
Barrhead	C. C. Robinson	
Berwyn	A. W. Beattie	Miss E. Mitchell
Bonnyville	L. Gareau	
Brooks	Ira Lapp	Mrs. N. J. Gary
Assistant	M. W. Malyon	
Calgary	N. F. Bell	Miss A. Randle
Camrose	L. D. Williams	Miss N. Hooper
Cardston	D. L. Steed	
Claresholm	H. H. Michael	To be appointed
Coronation	J. D. Jantzie	
Drumheller	S. W. Pettem	
Edmonton North	J. M. Fontaine	Miss R. Whaley
Edmonton South	B. J. Whitbread	Miss J. Morgan
Falher	V. Surprenant	
Grande Prairie	R. C. Moffat	Miss L. Mitchell
Hanna	J. C. Brown	To be appointed
High River	C. E. Yauch	
Lac La Biche	J. S. Lore	
Lacombe	W. L. McNary	
Assistant	E. C. Lowe	
Leduc	J. R. Gylander	
Lethbridge	A. E. Sherman	Miss E. Bartman
Assistant	A. R. Jones	
Mayerthorpe	H. B. Jeffery	
Medicine Hat	J. L. Anderson	
Assistant	F. S. Goddard	
Olds	H. J. Fulcher	
Ponoka	J. L. Kerns	
Red Deer	R. D. Price	Miss A. Nelson
Assistant	H. F. Campbell	
Rocky Mountain House	G. A. Ross	
Ryley	N. A. Chomik	
Sedgewick	A. E. Edwards	
Smoky Lake	F. Strashok	
Spirit River	G. W. Shewchuk	
Stettler	E. W. Walker	Mrs. B. Moxham
Stony Plain	R. C. Bocking	
Strathmore	K. H. Walker	
St. Paul	M. Chevrette	Miss E. Kubrak
Taber (Assistant)	J. G. Calpas	
Two Hills	R. P. Fodchuk	
Vegreville	W. N. Pidruchney	Miss M. Inglis
Vermilion	E. H. Buckingham	
Assistant	A. B. Letts	
Wainwright	J. S. Duncan	Miss E. Craig
Westlock	W. A. Ross	Miss D. Montalbetti
Wetaskiwin	W. C. Proctor	Miss J. Halliday
Willingdon	F. Magera	
At large		Miss B. Murray

Irrigation Division

C. J. McAndrews	Extension Irrigationist, Lethbridge
L. D. M. Sadler	Drainage Specialist, Lethbridge
D. G. Harrington	District Irrigationist, Bow Island
N. S. Thomson	District Irrigationist, Taber

APPOINTMENTS

Headquarters	
Miss B. Murray	District Home Economist at large
District Agriculturists	
R. C. Bocking	Stony Plain
W. C. Yule	Assistant at Calgary
J. C. Brown	Assistant at St. Paul
J. G. Calpas	Assistant at Taber
A. B. Letts	Assistant at Vermilion
District Home Economists	
Miss E. Craig	Wainwright
Miss L. Mitchell	Grande Prairie
Miss R. Whaley	Edmonton (re-appointment)

TRANSFERS

J. C. Brown	Assistant at St. Paul to District Agriculturist at Hanna
H. F. Campbell	Assistant at Edmonton to Assistant at Red Deer
W. L. McNary	District Agriculturist at Mayerthorpe to District Agriculturist at Lacombe
A. E. Sherman	District Agriculturist at Hanna to District Agriculturist at Lethbridge
W. C. Yule	Assistant at Calgary to Assistant at Athabasca

New Offices

During the past year, territory of the Westlock office was divided and a new office opened at Barrhead.

AGRICULTURAL SOCIETIES

Interest in the overall activities of Agricultural Societies appears to be about static. With particular reference to Agricultural Fairs, while the number changes slightly from year to year, the form and general conduct is much the same now as thirty years ago. Some development takes place from year to year with respect to physical accommodation and equipment but the classes and number of entries have changed very little.

New Societies organized—None
Societies disorganized —None
Change of name —Lacombe Agricultural Society to Central Alberta Agricultural Society

Activities conducted by Agricultural Societies:

Fairs—"B" Class	6
"C" Class	23
Tillage Competitions	3
Live Stock Sales	3
Seed Fairs	3
Horticultural Exhibitions	3
Farm and Home Improvement Programs	22
4-H Club Display Competitions	5

District Agriculturists are not permitted to act on the executive of these Societies. They have, however, assisted in their activities as follows:

Fairs judged or otherwise assisted	87
Farm and Home Improvement programs	22
Field days and tours	39
Attendance at these	1,518

FARM LABOUR

General

The generally high level of employment throughout the Canadian economy, including Alberta, continues to drain off workers from the agricultural labour force. The net result for the past year has been a great difficulty in locating farm workers. In general, farmers have accepted this situation as inevitable, and on the basis that the crop was seeded and harvested as usual, one must assume that they have exhausted all the alternative expedients. It is probable that the farmers have, themselves, worked longer hours and that their wives and daughters have returned to some of their former duties in field and farmstead.

Seasonal Movements

(a) Ontario Farm Workers

The conditions indicated above militated severely against the recruitment of western workers for Ontario and the total of 26 is probably the lowest on record since the beginning of the movement. It is fairly obvious that the farmer's inability to procure hired help precluded the possibility of him or his sons leaving the farm.

(b) Prairie Farm Workers

Here again the shortage of labour in Ontario, coupled with the dates of the Ontario harvest, undoubtedly made recruitment difficult for the western movement. The movement began in late August as usual and continued, but in diminished numbers, until early October, when it was cancelled since no workers were coming forward.

The farmers appeared to accept the inevitable, and after having been plainly told that eastern sources would not be fruitful, proceeded, with certain difficulties, to harvest their crops without these workers. Labour Services in Alberta probably had less demand this year for harvesters than in any year within recent memory and this must be attributed to the fact that farmers were warned that workers would not be available in quantity.

Wages were somewhat higher than ever before. It is probable that very few workers were engaged at less than $10.00 per day and many were paid $1.00 to $1.50 per hour.

(c) Alberta Harvesters

This group does not include prairie farm workers.

Before harvest commenced and during the early stages of it, Provincial field staff and all interested local organizations were advised of the probable acute shortage of workers likely to occur. Boards of Trade, Service Clubs and similar organizations were encouraged to take all possible steps to recruit local workers from business places within cities, towns and villages. It is not possible to state exactly how many workers were recruited in this manner but it is certain that the number was appreciable.

Sugar Beet Workers

(a) Immigrants

While a few individual immigrants may have arrived in the sugar beet area, none came in under the auspices of the farm labour committee.

Mechanization continues to expand to some extent in all phases of beet operation but particularly with respect to harvesting, and it is believed that this year from 60% to 75% of the beets were harvested by machinery.

(b) Indians

While in 1955 Indian workers for sugar beets were recruited only in Alberta, it became evident early in the season that the high level of employment of Indians in construction and similar activities would preclude the recruitment of large numbers for the sugar beet fields this year. Accordingly, the recruitment area was expanded to include the Province of Saskatchewan and from both sources a total of slightly over 400 workers was secured.

It may be said that these workers were generally acceptable to the beet growers and it is believed that there are no cases on record of their rejection. Some of the workers had had experience in previous years. A reception camp was established at Lethbridge Exhibition Grounds and the provisions there worked out satisfactorily and to the economy of the Governments concerned.

Notwithstanding requests from the growers for a much larger number of workers than it was possible to recruit, it is not believed that very acute embarrassment was experienced by our failure to recruit them. It is possible that some small acreage may have been destroyed as a result of the shortage of labour but the amount would not be appreciable.

Custom Combines From U.S.A.

A shortage of harvesters probably accounts for the somewhat larger number of combines admitted for custom work from U.S.A.

LABOUR STATISTICS

	1955	1956	
General Farm Labour:			
Province	869	714	
National Employment Service	4,569	6,456	
			7,170
Directed to other industries	....	288	
Seasonal Movements:			
Ontario Farm Workers	192	26	
Prairie Farm Workers	627	350	
Alberta Harvesters	2,161	1,804	
Weekend Harvesters	....	650	
			2,830
Sugar Beet Workers:			
Immigrants	196	....	
Indians	240	407	
			407
Investigations and Transfers	83	71	
Combines from U.S.A.	11	29	

MASTER FARM FAMILY PROGRAM

The four farm families listed below were selected from 23 nominations and these were declared under this policy this year.

W. L. McGillivray Family, Coaldale, Alberta
Alfred Rose Family, Ricinus, Alberta
J. P. Rozmahel Family, Viking, Alberta
A. D. Fraser Family, Teepee Creek, Alberta

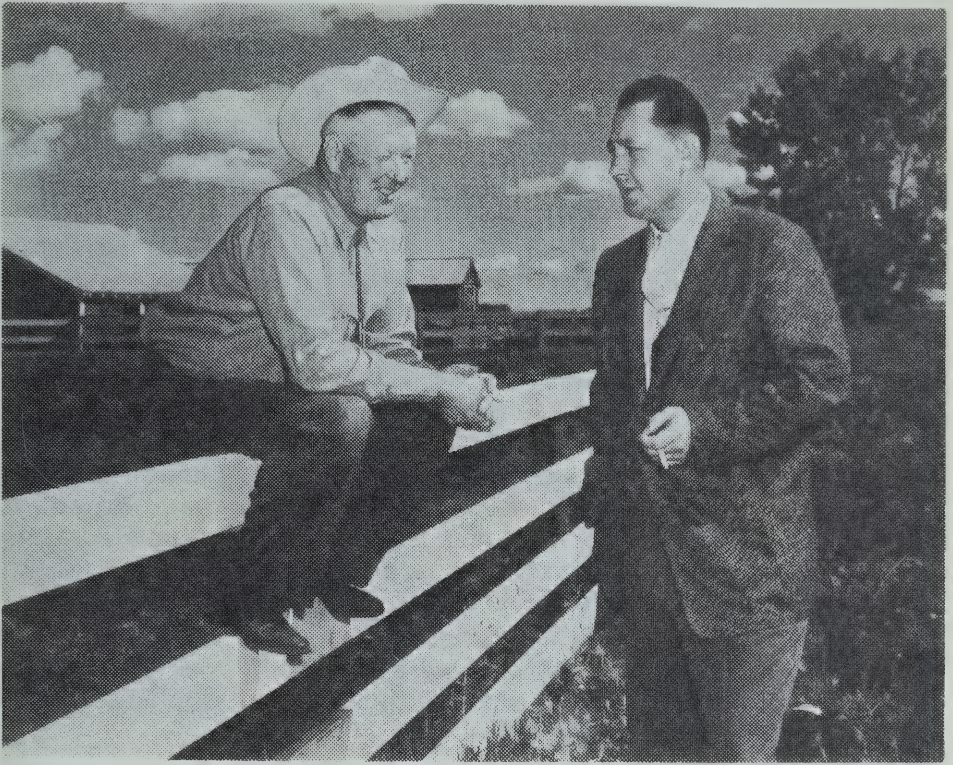
The total number of families which have now been declared since the inception of the program is 36. No significant changes have been made in the administration of the program.

NAMES OF HOMES ACT

The total number of homes now registered under this Act is 264, which includes 9 added during last year.

FARM WATER SUPPLY ASSISTANCE POLICY

Number of dugouts subsidized this year	58
Total, 1945 to date	2,382



A Master Farmer talks with his D.A.

PUBLICATIONS

Statistics with respect to the distribution of publications and plans on agriculture and homemaking are listed hereunder:

Agriculture (Departmental)	135,777
Homemaking (Departmental)	68,789
Others (University, Federal Department, commercial organizations)	80,231
TOTAL	284,797
Publications and plans printed or reprinted during 1956	53

VISUAL AIDS

The following figures indicate the visual equipment in this Branch and its use during the year:

Motion picture projectors	8
Slide projectors	33
Films owned	41
Films on extended loan	77

During 1956, 256 films were shown at 163 public meetings which were attended by 8,884 persons. Relative popularity of various films varies from one showing to 61 showings. The average number of times each film was shown was 7.

STATISTICS

The Statistics Division of the Extension Service co-operates with the Dominion Bureau of Statistics in the work of providing statistics of agriculture. The present co-operative arrangement is the result of many years experience but adjustment to meet new needs is continually being made.

The Agricultural Statistician attended the Dominion-Provincial Agricultural Statistics Conference held at Ottawa in November. In addition to a review of current work, consideration was given to problems associated with the economic classification of farms and farm income, expenditure and food consumption statistics.

In co-operation with the Field Crops Branch, this Division conducted an exploratory survey in 1956 to test the possibility of estimating the production of forage crop seed by mailed questionnaire. The accuracy of the estimates obtained, and the success of the survey, will not be known until the end of the seed marketing year. However, with about a one-third farmer response to the questionnaire, the need for early statistics on forage seed production was indicated. Moreover, if it should be decided to continue the work the experience gained this year will be most useful.

Eleven crop reports and an autumn summary on crop conditions, live stock numbers and cash income statistics, were published during the season. Moreover, 13 summaries of crop conditions were prepared for use in crop reports issued by the Dominion Bureau of Statistics. In this connection, it is a pleasure to acknowledge the assistance of some 250 crop correspondents without whose help our crop reporting service would not be possible.

Again this year, monthly statistics on income from the sale of principal Alberta farm products were prepared in this office for publication in the "Summary of General Statistics" published by the Department of Industries and Labour.

Field Crops

Snowfall was heavy last winter but the thaw was gradual and the absorption of moisture into the soil was above average. Nevertheless, there was sufficient run-off to cause serious erosion in many central and western areas.

Some seeding was done in the south before April 21 but operations were not general in all areas until about May 15. Wheat planting was completed between May 15 and 25; seeding coarse grains was finished about June 2.

Moisture supplies were generally good in the spring but precipitation was below normal until nearly the middle of June and surface soils became dry. While early crops were not much affected by the dry weather, germination was uneven in fields worked deeply and seeded late. Some wind damage was reported.

General rains relieved the situation in the second week of June and moisture conditions remained favourable for the rest of the season. With higher than normal temperatures growth was good. Losses owing to hail were about average.

Fine warm weather in the latter part of August hastened crop advancement but rains in September delayed the harvest. However, when snow came near the end of October only a little threshing remained to be done in the Peace River country.

On August 17, a severe frost damaged crops in the Fort Vermilion, Keg River and Clear Hills districts and, in most other areas, general frost occurred in early September. Eastern and southwestern areas were hardest hit. However, an area from Three Hills to Edmonton and northwest escaped serious frost until the end of the month.

Grades were reduced by frost and to some extent by wet weather. The Alberta Wheat Pool estimated that 7, 23 and 30 per cent of the wheat crop will grade 2, 3 and 4 northern respectively. It is estimated that only 7 per cent of the oats and 26 per cent of the barley will grade Canada Western.

The basis for initial Canadian Wheat Board payments for 1956-57 are as follows: wheat, No. 1 northern, $1.40; oats, 2 c.w., 65 cents; and barley, No. 3 c.w. 6-rowed, 96 cents basis Fort William-Port Arthur or Vancouver. Growers received final settlement on wheat deliveries in the 1954-55 crop year in May, 1956. The 1955-56 oats and barley pools were closed in November.

Last winter was hard on perennial crops. As a consequence, the production of legume seeds was sharply reduced. Owing to the early-season drought the production of grass seeds was also down from last year. Canada Department of Agriculture estimates of production and value for 1955 and 1956 follow:

	Production		Value	
	— pounds —		— dollars —	
	1955	1956	1955	1956
Alfalfa	1,100,000	625,000	176,000	200,000
Alsike Clover	7,000,000	3,500,000	980,000	1,050,000
Red Clover	4,000,000	1,200,000	720,000	420,000
Sweet Clover	4,250,000	6,500,000	255,000	455,000
Timothy	500,000	200,000	35,000	20,000
Brome Grass	5,000,000	4,000,000	500,000	1,200,000
Crested Wheat Grass	100,000	100,000	18,000	30,000
Creeping Fed Fescue	8,500,000	4,500,000	1,105,000	1,530,000
Kentucky Bluegrass		32,000		40,000
Other		28,000		4,000
Total			3,789,000	4,949,000

The hay crop, except where irrigated, was light and a wet haying season resulted in lower quality feed compared to last year. However, a substantial increase in the amount of grain hay produced and the fact that considerable quantities of combined straw was gathered, will compensate for lower hay supplies.

The production of specialty crops continue to increase. The area devoted to mustard seed in 1956 was 137,000 acres compared to 78,000 in 1955. Likewise, with 32,000 acres planted, the area in rapeseed was four times greater than in 1955. The acreage contracted for the production of crops for canning and freezing increased from 8,380 in 1955 to 10,030 in 1956. With the market for sugar restricted by comparative costs in competing areas, including shipping charges, sugar beet production remains steady at about 36,000 acres.

The area and production of vegetables, except potatoes and sugar beets, grown for sale in 1955 and 1956 were as follows:

	Area Planted		Yields Per Acre		Production	
	1955	1956	1955	1956	1955	1956
	— acres —		— pounds —		— '000 lbs. —	
Beans*	550	450	4,100	4,600	2,280	2,060
Cabbage	150	300	15,700	20,900	2,350	6,265
Carrots	170	160	12,600	17,000	2,150	2,722
Corn	3,500	4,180	9,400	6,500	32,740	27,242
Onions	40	70	3,400	11,900	134	832
Peas*	4,300	5,730	2,300	2,000	10,100	11,220
Total	8,710	10,890				

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*Grown for processing only.

ESTIMATED AREA, PRODUCTION AND VALUE OF FIELD CROPS, ALBERTA, 1955 AND 1956*

	Area		Yield per Acre		Production		Value per Unit		Total Value	
	1955	1956	1955	1956	1955	1956	1955	1956	1955	1956
	— acres —		— bushels —		— bushels —		— dollars —		— dollars —	
Wheat	5,714,000	5,134,000	23.3	26.5	133,000,000	136,000,000	1.32	1.24†	175,560,000	168,640,000
Oats	2,649,000	2,961,000	39.6	48.3	105,000,000	143,000,000	0.61	0.56†	64,050,000	80,080,000
Barley	3,702,000	3,649,000	27.0	33.2	100,000,000	121,000,000	0.85	0.82†	85,000,000	99,220,000
Rye	174,000	120,000	19.8	15.0	3,450,000	1,800,000	0.85	0.97	2,932,000	1,746,000
Flaxseed	248,000	539,000	12.1	13.9	3,000,000	7,500,000	2.75	2.58	8,250,000	19,350,000
Mixed Grains	176,000	245,000	33.0	38.8	5,800,000	9,506,000	0.72	0.70	4,176,000	6,654,000
			— pounds —		— pounds —					
Mustard Seed	78,200	137,000	633	971	49,463,000	133,000,000	0.045	0.038	2,208,000	5,013,000
Rapeseed	8,000	32,000	565	925	4,520,000	29,600,000	0.037	0.035	167,000	1,036,000
Total Grain and Seed	12,749,200	12,817,000							342,343,000	381,739,000
			— bushels —		— bushels —					
Potatoes	15,900	16,400	154.0	190.0	2,450,000	3,116,000	1.42	1.13	3,479,000	3,521,000
			— tons —		— tons —					
Sugar Beets	36,400	36,200	11.82	12.79	430,143	464,421	15.30	17.50	6,581,000	8,127,000
Tame Hay	1,422,000	1,415,000	1.69	1.41	2,400,000	2,000,000	17.50	15.00	42,000,000	30,000,000
Miscellaneous Crops	....	....	....	....	....	....	....	....	7,271,000	9,045,000
Total Value of Field Crops									401,674,000	432,432,000

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*Estimates for 1956 are preliminary.

†Estimated by the Alberta Department of Agriculture to provide approximate total values of production for comparative purposes.

Live Stock

For the fourth consecutive year, estimated numbers of cattle on farms in Alberta showed an increase. Net marketings were also considerably above those for 1955. It was estimated that sheep and lamb numbers were down but marketings increased. Hog production declined in 1956 compared to 1955.

The estimated number of live stock on farms at June 1st for the years 1954 to 1956 inclusive were as follows:

	1954	1955	1956
Milk Cows	303,000	315,000	312,000
Calves	555,000	585,000	596,000
Other Cattle	1,152,000	1,185,000	1,278,000
Total Cattle	2,010,000	2,085,000	2,186,000
Hogs	1,408,000	1,620,000	1,455,000
Sheep and Lambs	440,000	460,000	455,000

The number and value of live stock produced (net marketings through public stockyards, sales to packing plants, for local slaughter and direct or export, killed on farms and changes in inventory) for 1955 and 1956 were as follows:

	Produced		Estimated Value	
	1955	1956	1955	1956
	— number —		— dollars —	
Cattle	560,205	613,532	77,841,000	82,532,000
Calves	201,640	193,267	11,409,000	10,713,000
Sheep and Lambs	201,830	167,438	2,687,000	2,180,000
Hogs	2,053,309	1,769,078	72,531,000	64,945,000
Total Value			164,468,000	160,370,000

Live Stock Products

The most significant change in the production of live stock products for 1956 as compared to 1955 occurred in respect to poultry products. The number of laying hens and greater production per hen as well as expansion in poultry meat raising all contributed to the increase. Income for the year from dairying was about the same as for the previous year. Honey production was higher and prices paid for wool were relatively strong.

ESTIMATED PRODUCTION AND VALUE OF PRINCIPAL LIVE STOCK PRODUCTS, ALBERTA, 1955 AND 1956*

	Production		Price per Unit		Total Value	
	1955	1956	1955	1956	1955	1956
Dairy Products:	— pounds —		— dollars —		— dollars —	
Butterfat for creamery butter	25,687,000	24,780,000	.60	.60	15,439,000	14,790,000
Dairy butter produced	2,741,000	2,730,000	.56	.56	1,535,000	1,529,000
	— hundred pounds —					
Milk and fat for ice cream†	461,720	495,040	2.39	2.36	1,104,000	1,170,000
Milk for cheesemaking and concentrating	586,410	573,290	2.39	2.42	1,406,000	1,385,000
Milk and cream for fluid sales†	2,861,550	3,042,200	4.26	4.17	12,195,000	12,689,000
Milk consumed on farms	1,371,000	1,335,000	2.39	2.40	3,277,000	3,204,000
Milk fed to farm animals	1,048,800	988,100	2.39	2.40	2,507,000	2,371,000
Skim Milk, etc. fed on farms	7,031,560	6,786,670	.32	.35	2,250,000	2,376,000
Total Value of Dairy Products					39,713,000	39,514,000
Poultry Products	— dozen —		— per dozen —			
Commercial eggs	44,922,000	49,139,000	.35	.34	15,638,000	16,759,000
Matching eggs	1,105,000	1,316,000	.57	.60	625,000	786,000
	— pounds —					
Poultry meat	42,398,000	52,804,000	.33	.32	13,823,000	17,094,000
Total Value of Poultry Products					30,086,000	34,639,000
Honey	4,611,000	4,724,000	.16	.16	769,000‡	792,000‡
Wool	1,925,000	1,849,000	.32	.35	616,000	647,000
	— No. Pelts —		— No. Animals Exported —			
Fur Farming§	136,245	143,386	2,426	3,399	2,721,000	2,874,000
Miscellaneous Live Stock Products					1,784,000	2,121,000
Total Value Live Stock Products					75,689,000	80,587,000

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*Prelminary. †Milk equivalent. ‡Includes the value of wax produced. §Year ending August 31.

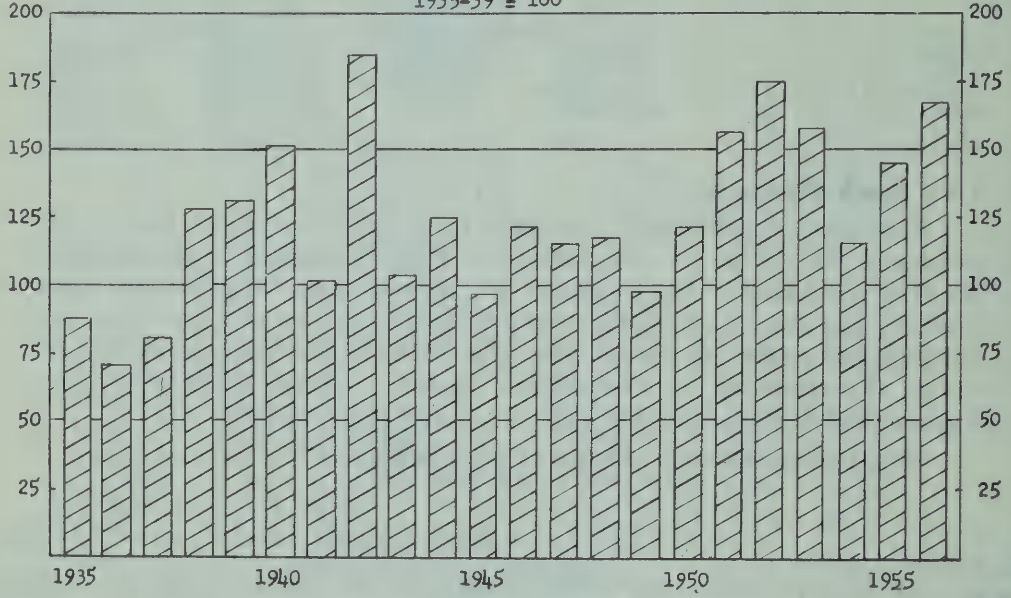
SUMMARY OF THE VALUE OF AGRICULTURAL PRODUCTION IN ALBERTA, 1953 TO 1956

	1953	1954	1955	1956
		— thousands of dollars —		
Field Crops	432,051	299,733	401,674	432,432
Live Stock	156,555	176,443	164,468	160,370
Dairy Products	37,910	38,603	39,713	39,514
Poultry Products	29,047	29,433	30,086	34,639
Honey and Wax	563	411	769	792
Wool	754	665	616	647
Fur Farming	2,651	2,481	2,721	2,874
Other Live Stock Products	2,343	1,897	1,775	2,121

Index of Agricultural Production

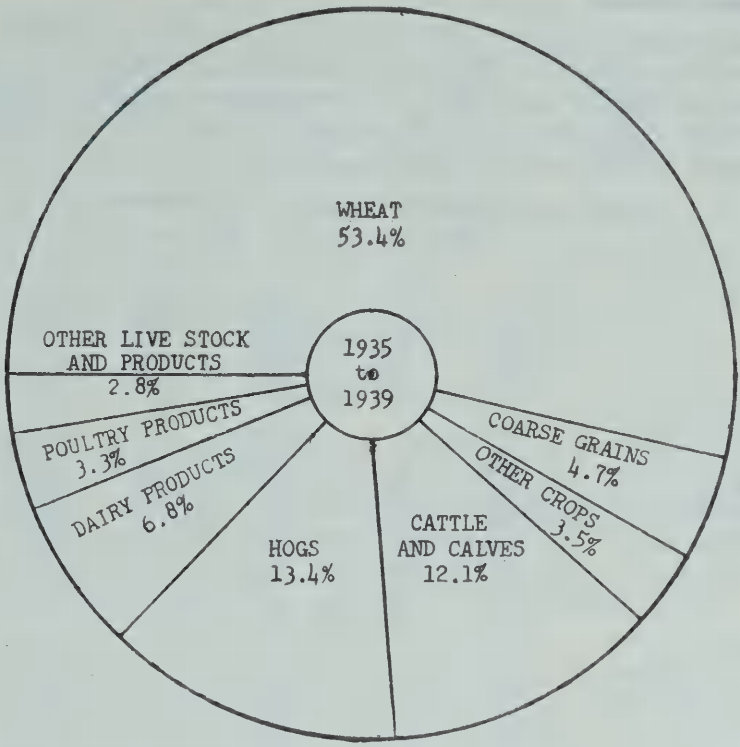
The index of the physical volume of Agricultural production (1935-39 = 100) increased from 144.7 in 1955 to 166.7 in 1956. This compares to a low of 71.0 in 1936 and a high of 184.2 in 1942. The relatively high volume of production for last year was owing largely to favourable conditions for fields crops production on which a substantial increase in live stock production was based.

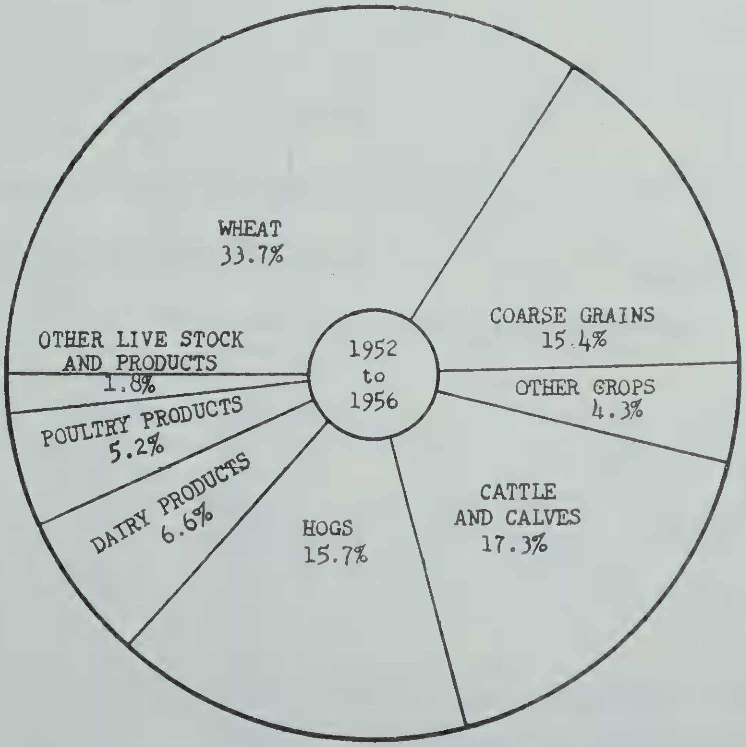
INDEX NUMBERS OF THE PHYSICAL VOLUME OF AGRICULTURAL PRODUCTION, ALBERTA, 1935 - 1956
1935-39 = 100



Farm Cash Income

Cash income from the sale of farm products and payments on Canadian Wheat Board participation certificates in 1956 amounted to 432.9 million dollars compared with 365.1 million in 1955 and an all-time high of 505.1 in 1952. The relative percentage of farm cash income derived from the sale of crops was 63.1 per cent in 1952. 42.9 per cent in 1955 and 48.9 per cent in 1956. However, it would appear that the long-time trend is toward greater dependence on live stock production. Farm income from the sale of live stock and live stock products as a percentage of total income for the past three decades was: 1926-35, 30.2 per cent; 1936-45, 49.7 per cent; and 1946-55, 45.7 per cent.





SOURCE OF INCOME FROM THE SALE OF FARM PRODUCTS

Net Farm Income

Net income of farm operators from farming operations was 266.8 million dollars in 1956 compared with 215.4 million in 1955, an increase of 23.9 per cent. This result was achieved in spite of higher farm operating costs, through substantial increases in farm inventories as well as farm cash income.

CASH INCOME FROM THE SALE OF FARM PRODUCTS

	1954		1955		1956	
Field Crops:	$'000	% of Total	$'000	% of Total	$'000	% of Total
Wheat*	107,164	27.7	99,975	27.0	133,943	30.9
Oats*	14,966	3.9	7,534	2.0	11,400	2.6
Barley*	29,442	7.6	26,747	7.2	34,843	8.0
Rye	3,801	1.0	1,901	0.5	3,846	0.9
Flaxseed	3,839	1.0	6,341	1.7	10,297	2.4
Clover and Grass Seed	5,545	1.4	3,789	1.0	3,114	0.7
Hay and Clover	41	......	37	......	134	......
Potatoes	647	0.2	704	0.2	818	0.2
Vegetables	2,097	0.5	2,482	0.7	3,117	0.7
Sugar Beets	5,992	1.6	5,905	1.6	6,579	1.5
Other Crops	3,779	1.0	3,567	1.0	4,241	1.0
Forest Products	235	......	237	......	240	......
Total Field Crops	177,548	45.9	159,219	42.9	212,572	48.9
Live Stock:						
Cattle and Calves	74,451	19.2	77,220	20.8	86,372	19.9
Sheep and Lambs	1,666	0.4	2,391	0.6	2,174	0.5
Hogs	75,342	19.4	67,208	18.1	68,237	15.7
Dairy Products	28,936	7.5	30,173	8.1	30,064	6.9
Poultry	11,470	3.0	9,871	2.7	13,409	3.1
Eggs	11,455	2.9	13,178	3.6	14,407	3.3
Wool	645	0.2	597	0.2	634	0.2
Honey	406	0.1	710	0.2	765	0.2
Fur Farming	2,436	0.6	2,779	0.8	2,208	0.5
Other Live Stock Products	1,890	0.5	1,784	0.5	2,121	0.5
Total Live Stock	208,697	53.8	205,911	55.6	220,391	50.8
Supplementary Payments (P.F.A.A.)	1,031	0.3	5,776	1.5	1,319	0.3
Total Farm Cash Income	387,276	100.0	370,906	100.0	434,282	100.0

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*Interim and final payments made by the Canadian Wheat Board on participation certificates (wheat, oats, barley) are included in the calendar year in which payments were received by farmers.

FARM OPERATING EXPENSES AND DEPRECIATION CHARGES

	1954	1955	1956
		— thousands of dollars —	
Taxes	19,551	18,613	118,613
Gross rent	23,444	30,200	29,771
Wages paid to labour	27,739	27,890	29,167
Interest on indebtedness	8,004	8,238	8,634
Feed and Seed purchases	16,157	16,488	17,582
Tractor expenses	31,108	32,072	34,734
Truck expenses	14,398	14,950	15,782
Automobile expenses for farm business	11,093	11,670	12,919
Engine and combine expenses	4,040	4,571	5,017
Machinery repairs and shop charges	11,875	12,370	12,500
Fertilizer	3,000	2,755	3,136
Fruit and Vegetable supplies	3,608	3,876	4,261
Repairs to buildings	8,354	8,028	8,944
Miscellaneous	10,800	11,317	11,481
Total operating expenses	193,171	203,038	212,541
Depreciation, buildings and machinery	49,156	48,888	48,780
Total operating expenses and depreciation	242,327	251,926	261,321

NET INCOME OF FARM OPERATORS FROM FARMING OPERATIONS

	1954	1955	1956
	— thousands of dollars —		
Cash Income from the sale of Farm Products	386,245	365,130	432,963
Income in Kind*	46,658	47,280	47,340
Value of changes in Inventory	1,088	49,115	46,511
Gross Income	433,991	461,525	526,814
Operating Expenses and Depreciation	242,327	251,926	261,321
Net Income from Farming Operations	191,664	209,599	265,493
Supplementary Payments†	1,031	5,776	1,319
Net Farm Income	192,695	215,375	266,812

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*Includes estimated rental value of farm homes.

†Received under the Prairie Farm Assistance Act.

IRRIGATION

Substanial progress has been made in providing improved services and more useful information to both farmers and project administrators. Services are mainly designed for the new settlers on the St. Mary River Development and the Bow River Development, but some services are provided for the older sections of the projects.

A drainage investigation service has been added to the other services provided and is giving much needed assistance. Some excellent modern equipment has been obtained to help give more efficient service. The major item supplied is the high speed earth boring machine for obtaining soil samples quickly at depths from one to sixteen feet. Many requests are being received from farmers and project administrators for investigation of seepage, alkali, salinity and surface drainage problems.

Land classification procedures have been improved to provide necessary information on irrigable lands before settlement; included are estimates of the cost of land development for irrigation of each quarter section of land along with an assessment of the probable effect of irrigation on these lands. In the past ditches have been constructed to all lands where gravity would allow water to run without enough consideration of the soil, agricultural and economic factors. Lands now considered not suitable because of soil, topography or economic features will be withheld from settlement.

New settlers are provided with survey service including the location of main ditches, cuts or fills, design of farm irrigation structures and water supply dugouts. This work has been somewhat retarded because of the lack of experienced survey crews. The new settlers have also been provided with the service of experienced practical irrigators to help them run their new ditches and to help them handle irrigation water for the first time. Due to above-average rainfall, new settlers did not take full advantage of the irrigator service. A smaller number of acres were irrigated on the projects in 1956 than in 1955.

Aerial photography has been used to speed up the mapping and classification of the irrigable lands. It has also reduced the cost. Increasing use and values are anticipated from this relatively new science which has been applied to land classification. The library of aerial photographs is proving of value for soil and land classification, drainage and farm planning.

Heavy land levelling equipment was again provided at cost for the newly irrigated lands. Improved supervision provided satisfactory operation of this equipment in 1956. Engineering and design services were again available for lands to be levelled.

Six private operators with heavy equipment worked throughout most of the season levelling land on a custom basis. Their work was designed and supervised by our staff when requested by the farmer.

It is considered that the Irrigation Extension Service is yielding returns to the new settler far in excess of its costs. It is, however, evident that many of the farmers are not using the services offered and are not developing their lands for economic irrigation farming. The major factor, of above-normal rainfall, has allowed them to continue to use dry land farming methods. Two other major factors retarding the desirable settlement and transition from dry land to irrigation farming are:

(1) lack of sufficient capital resources, including long-term and intermediate-term credit, to enable the farmers to develop his lands for efficient irrigation, and

(2) lack of suitable markets for many of the intensively cultivated crops suitable for irrigated lands.

LAND LEVELLING AND RELATED SERVICES

By Alberta Department of Agriculture Equipment:	
Levelling on colonization lands	19
Levelling on privately owned lands	4
Levelling on dugouts, treebelts, fills, construction	7
ACRES IMPROVED	1,200
By private operators' equipment:	
Levelling on colonization lands	13
Levelling on privately owned lands	35
Work other than land levelling	48
ACRES IMPROVED	1,500
TOTAL COST OF WORK	$100,500.00
TOTAL WORK COMPLETED 1950-1956	340
TOTAL ACRES IMPROVED 1950-1956	11,910

SURVEY SERVICE

Farm head ditch surveys	380
Irrigable area	29,309
Mapping for classification	329
Irrigable area	30,145
Re-surveys	128
Irrigable area	12,800
Re-classification	46
Irrigable area	1,300
Mapping to correct aerial photo plans	48
Irrigable area	4,800
Land levelling surveys	147
Irrigable area	2,716
Pump irrigation	1
Irrigable area	20
Bench mark surveys (including establishing outlets)	83
Miscellaneous surveys	295
TOTAL NUMBER OF SURVEYS	1,457
TOTAL IRRIGABLE ACREAGE IN SURVEYS	81,090

AERIAL PHOTOGRAPHY

Quarter sections photographed for classification	292
Quarter sections photographed for arable areas and topography purposes	6
Quarter sections photographed for irrigation farm system planning	6

MARKING DITCHES

Quarter sections ditched by Department	215
Quarter sections ditched by farmers (approximately)	64

IRRIGATOR SERVICE

Farm contacts	195
Field ditch surveys	137
Supervised irrigating jobs	97
Practice irrigating by Department staff members (days)	61

INSPECTIONS

Land and irrigable classification	1,581
Land levelling	295
Colonization	66
Farm irrigation systems	18
Pump irrigation	7
Drainage	296
Miscellaneous	1,018
TOTAL INSPECTIONS	3,281

DRAFTING

Original plats and ozalids	537
Tracings	776
Pencil copies	106
Farm irrigation system designs	19
Land levelling designs	71
Miscellaneous maps and jobs	1,054
Plans other than maps	54
Drainage maps and plans	25
TOTAL PRODUCTION OF MAPS AND PLANS	2,203
PRINTED REPRODUCTIONS OF MAPS AND PLANS	2,922

REPORTS PREPARED AND ISSUED

Colonization Manager	592
Land owners	153
V.L.A.	175
To headquarters, Edmonton	23
Employees and administration (work orders, schedules, etc.)	81
Soils	8
Drainage investigations	18
Classification	922
Re-classification	40
Farm irrigation systems (sprinkler, pumps, etc.)	22
Land levelling estimates	17
Miscellaneous	89
TOTAL REPORTS	2,181

DRAINAGE

Drainage problems	29
Number quarter sections	98
Classification	11
Number quarter sections	85
Dugouts	14
Custom work (farm electric—53 holes)	1
INVESTIGATIONS	54
INVESTIAGTIONS FULLY COMPLETED (including 14 dugouts)	24

SOIL SAMPLING

Number of holes drilled (including 215 hand auger)	947
Samples taken	1,416
Samples field analysis of soil	459
Number of analysis made	1,526
TOTAL MAN HOURS EMPLOYED ON DRAINAGE INVESTIGATIONS (approx.)	4,600

MAPS AND PLANS ISSUED

Maps to Bow River Development Manager	96
Maps to Colonization Manager	560
Maps to land owners	451
Maps to V.L.A.	161
Maps and plans to District Agriculturists and others	848
TOTAL	2,116
Talks given at farm meetings	33
Circulars issued with maps	259
Circulars and publications including irrigation newsletters prepared, mimeographed and issued	11,500
TOTAL OF ALL ISSUED PRODUCTION	14,864

GENERAL SUMMARY

Extension meetings participated in	36
Attendance	1,157
Staff meetings attended (including colonization)	52
Attendance	372
Field days and demonstrations participated in	20
Attendance	255
Short courses participated in	18
Attendance	1,460
Farm visits	650
Office interviews	1,251
Telephone calls	2,229
Letters written	1,604
Lectures at Olds School of Agriculture	30

AGRICULTURAL ENGINEERING

Agricultural Engineering activities were broadened during the year, with the addition of welding schools and plumbing schools. Fourteen of the former were conducted throughout the Province. Three hundred and forty candidates have taken this five-day practical course, and attendance has been 89 per cent perfect, indicating the interest in this instruction. At the 11 plumbing schools, 285 has attended the two-day courses. Rural electrification schools were continued in 1956, with 18 being held during the year, and attendance of 622 at the courses.

During the year, 53 meetings and short courses, having one or more agricultural engineering topics on the program, were attended by 2,710 people. Nine of these were on Indian reservations, where instruction in buildings, machinery and tractors constituted a major portion of the course material. These nine schools had a total attendance of 210.

Field days, competitions and demonstrations made up a total of 43 events, 6 of these being the tractor safety competition "Operation Tractor". Attendance at these events, excluding "Operation Tractor", was 3,540, with the most interest evident at the five silage and haying equipment field days.

Farm calls increased sharply during the year to a total of 173, and these took in most districts in the Province. One hundred and seven calls were made at D.A. offices ,and included all but two of the centres where District Agriculturists have headquarters.

Surveying for contouring, drainage gully filling or farmstead arrangement was carried out at 8 centres, and inspection was completed on four other projects where survey work remains to be done.

Ten items were submitted for Agricultural Notes, and 14 talks over "Call of the Land" dealt with agricultural engineering subjects. In addition, 14 more interviews dealing with mechanization or buildings were given by the Extension engineers on other farm broadcasts throughout the Province.

During the year, the bulletin "Dairy Barns for Alberta" was revised and made ready for printing. The new bulletin on Rural Electrification was completed except for minor changes suggested by the Electrical Inspection Branch.

Correspondence during the year increased to over 650 letters, with farm buildings and water and sewerage being the two topics of most interest.

During 1956, a service supplying re-useable septic tank forms was set up in three Municipal Districts with the guidance and assistance of the Agricultural Engineering section. Indications are that this service will expand and that several Districts will build their own forms.

SUMMMARY

No. of short courses and meetings	157
No. of field days, demonstrations and competitions	52
No. of schools (electrical, welding, plumbing)	43
Attendance at meetings, short courses, demonstrations and field days	6,578
Others assisted (farm visits, schools, correspondence)	4,717

FARM MANAGEMENT

Interest in the business aspects of farming has increased significantly during the past year. More farmers are realizing that the application of sound farm management is an increasingly important factor in their attempt to maintain an adequate economic position during the present cost-price situation. Long-term farm stability is essential in maintaining a healthy industry.

To develop and adopt the "whole farm" approach in Agricultural Extension, increased training of personnel has been undertaken in farm accounting, farm management, business analysis and Extension teaching methods. Several new forms and techniques have been brought into use as aids in this regard. The response and results of these efforts have been encouraging and the need for intensified work in this direction is apparent.

Progress has been made in farm planning as follows:

Farm plans prepared with farmers, including cropping and livestock program	157
Farm plans prepared covering crop sequence and field arrangements	389
Farm accounts assisted with preparation	260
Father-Son Agreements and farm leases prepared	98
Meetings at which farm management was discussed as principal topic	232
Meetings at which farm management was discussed with other topics	315
Persons othewise assisted with information and/or advice	5,500

FARM AND HOME IMPROVEMENT PROGRAM

The Farm and Home Improvement program is a group approach to the balanced farm concept of Extension. Thus, while Extension workers are prepared to assist any individual in setting up a program which would lead to a balanced farm, Farm and Home Improvement endeavours to do this with groups. Individual approach requires concentrated attention and can only be accomplished on a limited number of farms. This is obviated to some extent under the Farm and Home Improvement program, even though considerable individual attention is still required.

Assistance in this program is being obtained from a number of different local organizations, though the Agricultural Societies are the only ones to whom Departmental grants may be paid.

The Farm and Home Program also constitutes a method whereby the impact of District Agriculturists and District Home Economists may be combined and this is a feature which is scarcely possible under other methods of Extension. This co-ordinated effort is, of course, based on the assumption that in farming, the home is an integral part of the business and should not be divorced from it.

Number of groups participating	37
Number of farms involved	574
Farm visits under this program	2,000
Meetings of groups	74

Home development is an important phase of this program and this involves the service of the District Home Economists. The activities of the Home Economics section in this work for the past year is reflected hereunder:

Number of home visits	451
Meetings	29
Home projects supervised	364

Soil Conservation

A sound agricultural extension program has regard for the continued production and use of the soil. The importance of soil conservation cannot be overestimated. Increased interest is noted in gully control, grassing of natural water courses, suitable crop sequence systems and drainage problems.

Farmers assisted in special projects and campaigns	362
Demonstration fields and plots	145
Results of above demonstrations were observed by	1,881
Special soil conservation meetings conducted and arranged	129
Attendance	4,645
Persons otherwise assisted with information and/or advice	3,317

Weed Control

Weed control programs are planned with Agricultural Service Boards. District Agriculturists, as members of the Boards, have taken an active part in all phases of weed control including cultural, chemical and cropping practices. They have stressed the importance of using clean seed and of suitable crop rotations including grasses and legumes in a sound weed control program.

Community seed cleaning plants assisted in establishment and operation	21
Farm seed cleaning plants assisted in establishment and operation	55
Farm seed drill survey samples taken	1,680
Weed control demonstrations arranged or conducted including tillage, cropping and chemicals	138
Persons attending and viewing demonstration plots	1,835
Weed control meetings	256
Persons attending weed control meetings	6,066
Persons otherwise assisted with information and/or advice	3,916

CROP IMPROVEMENT—FORAGE

Farmers seeding forage seed plots	51
Farmers seeding variety demonstration plots	72
Farmers using seed for pasture demonstration plots	336
Farmers using fertilizer on pasture demonstration plots	265
Farmers seeding forage in balanced farming rotation demonstrations	45
Forage seed distributed for forage crop improvement demonstrations	55,079 lbs.
Fertilizer distributed for forage crop improvement demonstrations	11,240 lbs.
Field days or demonstrations for forage crop improvement including silage	78
Farmers attending field days and demonstrations	2,381
Persons otherwise assisted with information and/or advice	4,798

CROP IMPROVEMENT—GRAIN

Demonstration plots, variety, seed, field and fertilizer	93
Number of field days	26
Persons attending field days and plot demonstrations	3,690
Registered seed distributed	53,336 bus.
Commercial seed distributed	405,810 bus.
Person otherwise assisted with information and/or advice	4,474

Field Crop Pests and Diseases

District Agriculturists are called on to identify crop pests and disease specimens or to forward them for identification, and to prescribe control measure.

Demonstrations re control of crop pests and diseases	72
Attendance	2,718
Specimens forwarded for identification	347
Number of farmers participating in rat control program	2,773
Number of pounds of warfarin and Pivol distributed	10,450
Estimated number of rats killed	28,000
Estimated value of farm produce and property saved	$560,000
Rat control meetings	10
Attendance at rat control meetings	1,037
Persons otherwise assisted with information and/or advice	2,348

Live Stock Improvement

Most offices report a sustained interest in the improvement of live stock quality. Improvement is being urged with respect to:

(a) the use of proven breeding stock,

(b) more consideration of nutritional requirements, including the use of forage crops and improved pastures, and

(c) more attention to improved live stock management practices.

In addition, there is a growing tendency for live stock producers to give greater consideration to the selection of fewer specialized live stock enterprises on any individual farm. With this trend there would appear to be an increase in the efficiency of live stock production.

Livestock demonstrations (excluding 4-H Clubs)	66
Attendance	3,502
Meetings at which live stock was principal topic	259
Attendance	10,598
Farmers assisted with registration of pure bred animals	961
Farmers using Departmental dehorners	1,531
Cattle dehorned	11,418
Persons otherwise assisted with information and/or advice	8,884

LIVE STOCK PLACEMENTS THROUGH DEPARTMENT POLICIES AND OTHERWISE

	Male	Female
Horses	26	33
Cattle	1,067	1,008
Sheep	161	387
Swine	695	739
Poultry	117	1,870

Live Stock Marketing

Encouragement to live stock marketing is reflected in the following statistics:

Public live stock sales assisted	93
Animals Sold	17,969
Estimate of dollars earned or saved for farmers	$104,130
Persons otherwise assisted with information and/or advice	1,345

Live Stock Pests and Diseases

Programs organized for the control of livestock pests and diseases, including Bang's disease, coyotes, lice, warbles, T.B. and rabies, have been used extensively.

Farmers participating in calfhood vaccination (Bang's control)	37,760
Calves vaccinated	259,884
Farmers assisted with T.B. testing	1,187
Farmers participating in coyote control	9,349
Estimate of number of coyotes killed	50,490
Value of live stock saved (estimate)	$454,410
Number of rabies control meetings and demonstrations	67
Attendance	1,342
Specimens forwarded for identification	266
Enquiries re diseases, nutrition, parasities or bacteria	4,505
Number of farms where recommendations made for better nutrition, management or husbandry as a disease prevention procedure	1,859
Number of persons otherwise assisted with information and/or advice	6,835

Dairying

Special projects undertaken included tours by farmers and dairymen to study improved breeding practices, new methods of housing, feeding, care and management of dairy herds and the handling of dairy products. Increased interest is recorded in the use of artificial insemination, loose housing, milking parlors, self feeders and the use of silage.

Special projects and demonstrations for improvement of methods	28
Attendance	1,883
Farmers influenced to begin or continue testing	265
Number of cows on production test	6,279
Meetings at which dairying was principal topic	58
Attendance	2,287
Herds assisted with culling and selection	80
Persons otherwise assisted with information and/or advice	1,716

4-H Clubs and Junior Activities

4-H Clubs are generally popular and the requests for the formation of additional clubs and attendance at meetings places a heavy burden on many District Agriculturist offices. This is particularly true when the demands for other important Extension activities are increasing and are taking more time and attention.

Number of 4-H Clubs supervised by District Agriculturists	332
Number of 4-H Club members	5,431
Number of 4-H Club meetings arranged	1,542
Attendance at 4-H Club meetings (members and parents)	41,837
Members trained for Provincial Judging Competition	79
Special features held, i.e. tours, rallies, farm camps	409
Attendance	37,675

Agricultural Service Boards

Agricultural Service Boards are demonstrating their value, and the District Agriculturists, as a member of the Board, plays an active part in the programs. Service Boards have been particularly active in organizing community seed cleaning plants, Bang's Control, coyote control, in promoting weed control and soil conservation.

Agricultural Service Board meetings attended	323
Farms under Board supervision	129

HORTICULTURE

Farms assisted with farmstead plans	249
Shelterbelts planted (field, roadside and farmstead)	2,635
Trees ordered from Oliver, Indian Head and Brooks Nurseries	1,473,450
Tree planting and other horticultural demonstrations	94
Demonstration orchards	41
Persons otherwise assisted with information and/or advice	3,438

BEEKEEPING

Meetings and demonstrations	5
Attendance	139
Persons otherwise assisted with information and/or advice	214

Publicity—Newspaper, Radio and Television

Several members of the field staff contribute regular weekly colums to local newspapers. Others cooperate with newspaper editors, radio and television stations in supplying timely information. Excellent cooperation has been received from all publicity channels.

Number of newspaper articles and columns published	1,940
Radio talks or interviews	255
Television appearances	19
Newsletters (to 5,840 persons)	152

Foods and Nutrition

Demonstrations and Lectures

Topics	Number	Attendance
Food Preparation and Service	158	6,666
Food Preservation	32	1,319
Food Buymanship and Standards	5	90
Meal Planning	17	352
Food and Health	45	1,712
TOTAL	257	10,049

Forty of the above were meetings of food and garden clubs (or sponsored by), with a total attendance of 2,108. In addition, and not included in the above summary, were comments on food preparation, food preservation and food standards given at 4-H food and garden club achievement days.

The percentage of demonstrations rather than lectures has continued to increase. One hundred and twenty-one of the 158 food preparation topics were demonstrated. The Home Economists report increased interest in food topics evidenced by more phone calls and letters. One Home Economist states "the women are anxious and willing to make use of information given". Another says that after cooking schools she receives "expressions of appreciation and surprise, particularly in regard to methods and techniques of food preparation."

While few school visits were made and few talks given on the direct topic of school lunches, reports indicate that more individual assistance was given and there is increased cooperation with Public Health Nurses, Sanitary Inspectors and teachers. Five of the Home Economists stated one of their specific goals for the year as "better breakfasts and lunches for school children".

The number of lectures and demonstrations on food preservation topics was low, but here again more individual work was reported. The increasing popularity of home freezing as a method of preservation accounts for the increased demand for individual assistance.

One hundred and sixty-six home visits, 543 letters, over 1,100 phone calls and over 1,000 personal interviews were made—or received—for the express purpose of giving food or nutrition information. Information was also reported incidentally given in 525 home visits, 125 letters, 118 phone calls and 847 personal interviews. Additional, unrecorded information was given by District Home Economists and the Nutrition Specialist during many informal contacts.

One hundred and thirty newsletters, with a circulation of 6,882 (mostly groups), dealt with food and nutrition. Two hundred and ten newspaper articles were written, some of these appearing in several papers. Eleven radio talks or interviews were given. Further information given to the Radio and Information Branch by the Nutrition Specialist was printed in Farm Notes.

Assistance was again given this year with the frozen food tests being carried on at the Brooks Horticultural Station.

Clothing and Home Sewing

	Number	Attendance
Sewing clinics composed of 263 sessions	65	3,017
Lectures and demonstrations pertaining to sewing and use and care of sewing machine	109	2,066
Lectures pertaining to clothing selection	35	1,587
Lectures pertaining to textiles	52	1,171
Talks on judging standards for sewing and handicrafts	102	3,886
Talks to 4-H Girls' Clubs on sewing	247	8,789
Other individuals assisted re clothing	635	....
Home visits re clothing	188	....
Newspaper articles on clothing	77	....
Radio talks on clothing	9	....
Radio shorts for "Call of the Land"	7	....

Homemakers are showing an increased desire to learn to choose the right clothes and obtain a wardrobe to fit the budget through better planning and buymanship. Since home sewing reduces clothing costs and produces a personalized wardrobe, there is a continuous demand for assistance in selection and sewing of clothing. The expanding field in textiles has led to numerous requests for assistance in choosing and caring for the new fabrics. The work done by the District Home Economist is limited by the time available and by individual ability and interest. The increased need and demand for assistance in all phases of clothing led to the appointment of an Extension Clothing Specialist. She assists the District Home Economists by providing up-to-date information, illustrative material and necessary help with clinics, demonstrations and short courses.

Home Designing

	Number	Attendance
New homes planned	75	....
Homes remodelled	88	....
Kitchens remodelled	89	....
Living rooms, bathrooms, etc. remodelled	79	....
Number assisted—building materials	102	....
Blueprints sold	34	....
Lectures		
Home planning	15	545
Kitchens and utility rooms	16	598
Interior decoration	72	2,632
Electricity in the home	5	258
Individual Assistance:		
Water systems	58	....
Electrical systems	29	....
Heating systems	38	....
Interior decoration	571	....
Newspaper articles:		
Home planning, remodelling and decorating	73	....
Home visits:		
Housing problems	565	....

Many farm homemakers who were planning to build new homes or to remodel could not afford to do so this year. The most effective work and greatest amount done in this field was through individual assistance. One service greatly appreciated is the supplying of information on comparative cost and functional value of the many new types of finishing materials such as floor, wall and counter coverings, etc. Farm women are becoming more conscious of the appearance of their homes and it is evident that despite lack of ready cash for major improvements, they are anxious to make their homes as attractive as possible with furnishings and funds available. Information on refinishing and modernizing old furnishings, home painting methods, and use of inexpensive home decorating tricks are the popular topics.

Girls' 4-H Club Work

	Number	Attendance
Girls' Clubs	167	1,899 (membership)
Achievement days attended or assisted	190	14,454
Field days or rallies	24	3,187
Tours (garden or others)	76	1,656
Short courses (leaders and others)	12	347
Camps—Lake	2	148
Camps—Fairs	4	249
Home visits	447	....
Addresses	588	....
Number 4-H members assisted	676	....
4-H newsletters written	69	....

The supervision of Girls' 4-H Clubs in the field is carried on by the District Home Economists. Assistance was given by summer staff, by the Clothing Specialist and Nutrition Specialist who attended three Provincial Leaders' courses, District and Provincial Judging Competitions and the four Club Weeks.

Handicrafts

	Number	Attendance
Lectures and demonstrations	103	2,463
Individuals assisted	258	....

Handicraft continues to be the homemaker's chief hobby, but the trend is toward better and more useful crafts. This past year the Home Economics Extension staff have put particular stress on the production of practical crafts of good design. In addition to the above, talks were given to encourage "Good Design" and utility in handicrafts at 102 conferences where handicrafts and sewing were judged. Demonstration material has been prepared to illustrate good choice of articles, design and color.

Home Economist Visits the Home-Maker

Home Management

	Number	Attendance
Lectures and demonstrations	205	6,886
Individuals assisted	748	....
Newspaper articles	92	....

The importance of home management is reflected in the topics discussed by the District Home Economists: "Money Management", "Records and Accounts", "Buymanship", "Care of Home Furnishing, Equipment, Textiles, Clothing and Food", and "Time and Energy Savers".

Other Demonstrations and Lectures

Topics related to etiquette, table setting, entertainment, group receptions and picnics were discussed at 98 demonstrations attended by 2,558. Also, 278 individuals were assisted and 20 newspaper articles prepared on these topics.

Ten lectures were given dealing with "Happy Family Relations", attended by 536 persons, and 46 individuals were given guidance in this field.

There were 230 general discussions outlining the services of this Branch with 10,099 in attendance. Specific information regarding the Schools of Agriculture and Extension Service was given to 1,068 persons, and 42 newspaper articles prepared.

Short Courses, Field Days and Meetings

District Home Economists assisted in organizing, lecturing and demonstrating at 201 short courses and field days, 108 being in cooperation with the District Agriculturists, 20 the Canada Department of Agriculture, 3 the University Extension Department and 26 Agricultural Service Boards. In addition, 45 meetings were at the request of other organizations, such as Department of Indian Affairs, Canadian Association of Consumers, Rural Health Units, Fair Boards, Veteran's Land Act, etc. Advice and assistance was also sought by such local organizations as Relief Services, School Boards, Social Service Clubs, etc.

Judging At Fairs, Conventions and Conferences

District Home Economists judged at 120 Fairs, conventions and conferences, as well as 190 achievement days. Judging standards were discussed at 88 meetings. Fifteen Fair Boards were assisted in organization and 13 exhibits were prepared for Fairs and conventions.

SUMMARY OF ACTIVITIES—AGRICULTURISTS

	1955	1956
Number of meetings (including short courses)	3,736	3,691
Attendance	193,154	184,607
Number of farm visits	22,422	22,672
Office interviews	58,667	59,004
Phone calls	50,019	95,572
Letters written	48,368	49,770
Bulletins, circulars, circular letters	129,088	130,836

SUMMARY OF ACTIVITIES—HOME ECONOMISTS

	1955	1956
Number of demonstrations	2,066	1,947
Field days and short courses	230	129
Fairs and conventions judged and addressed	116	120
Total attendance at above	98,555	92,342
Average attendance	41	42
Radio	45	56
Publications distributed	96,930	106,329
Letters requesting information	13,828	14,204
Home visits	2,873	2,675
Girls' Clubs	193	167
Office interviews	5,372	5,016
Phone calls for information	7,518	8,979
Newspaper articles	485	558

Report of the Veterinary Services Branch

E. E. BALLANTYNE, V.S., D.V.M., Director

J. G. O'Donoghue, V.S., D.V.M., Extension Veterinarian
C. H. Bigland, V.S., D.V.M., D.V.P.H., Veterinary Pathologist
G. S. Wilton, V.S., D.V.M., Veterinary Pathologist
H. N. Vance, V.S., D.V.M., Veterinary Pathologist
F. E. Graesser, B.S.A., V.S., D.V.M., Veterinary Micropathologist
H. C. Carlson, V.S., D.V.M., Supervisor, Veterinary Inspection Service
J. K. Morrow, V.S., D.V.M., Supervisor, Brucellosis Control

General

During 1956, Alberta was fortunate in not having any severe epidemics or outbreaks of diseases in poultry or animals. The prolonged winter weather was quite severe on the cattle and many were in a state of malnutrition in some northern areas. Erysipelas was again the main infection among the hogs. Vibriosis caused some concern to the cattle industry. There was no Newcastle disease of poultry. Poor management continues to be a serious predisposing factor in the disease loss in Alberta.

The rabies, bovine brucellosis and tuberculosis control programs, and inspection at class D stockyards progressed favourably. These are described in more detail below.

The demands on the laboratory services increased again with 11,400 poultry and animal specimens submitted for examination, plus 23,203 cattle and 1,264 poultry blood samples. With the advent of selective drugs, more veterinarians, and a more scientific approach to diseases, a good laboratory service is very important to provide as accurate a diagnosis as possible. An estimated 50 diseases of animals and poultry in Alberta are transmissible to man.

During the year, Dr. J. K. Morrow joined the staff of this Branch as Supervisor, Brucellosis Control, with the terms of reference also including other sterility problems.

Other technical members of the staff are Miss A. Quon, B.Sc., Miss G. Papas, B.Sc., and Dr. K. Maybee (part-time).

Veterinary Students

The following is the number of Albertans attending the Ontario Veterinary College as students:

First year	9
Second year	7
Third year	5
Fourth year	3
Fifth year	2
TOTAL	26

The Department pays a $200.00 grant to each on successful completion of the year's studies. The purpose is to defray the travelling expenses as such veterinary science is not taught in the province.

T.B. of Poultry and Hogs

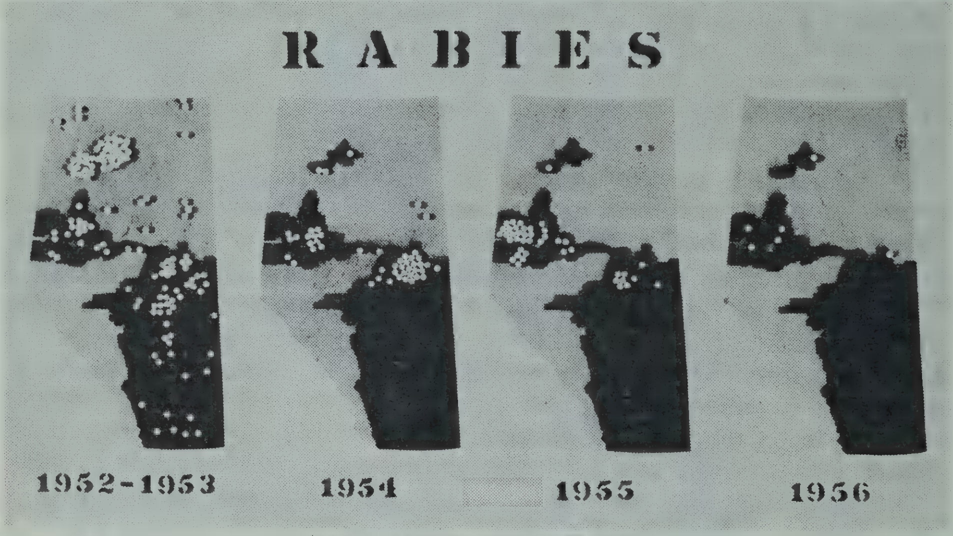
The educational program was continued with approximately 1,200 letters being sent to owners whose hogs showed evidence of infection. A considerable number of replies were received indicating that the necessary management changes will be made to help reduce the infection.

A 15% reduction has been achieved through this educational program since 1949, but the 1955 rate of infection of 23% in hogs going through the Edmonton packing houses is still too high.

Rabies

The 1956 situation was very encouraging, with only six positive cases being reported, namely; 2 coyotes, 2 cattle, 2 dogs—all in the Peace River block except one coyote north-west of Lac La Biche. No cases occurred after May. Two lectures on rabies were given to R.C.M.P. personnel being trained for northern duty; also to the public health nurses and medical students in training at the University of Alberta.

Map I. shows the favourable results of the control program since the first outbreak of the disease in June 1952. Each dot records the location of a positive case.



MAP I. Rabies cases 1952-1956

Due to the low number of positive cases, the Alberta Central Rabies Control Committee recommended that the Federal dog quarantine regulation be rescinded. This was done by the Federal Department of Agriculture, Health of Animals Division, on May 17, 1956. Dogs north of 50° were not vaccinated in the Fall as in former years. The Health of Animals Division were prepared to vaccinate any unvaccinated dogs in a district if an outbreak of rabies occurred.

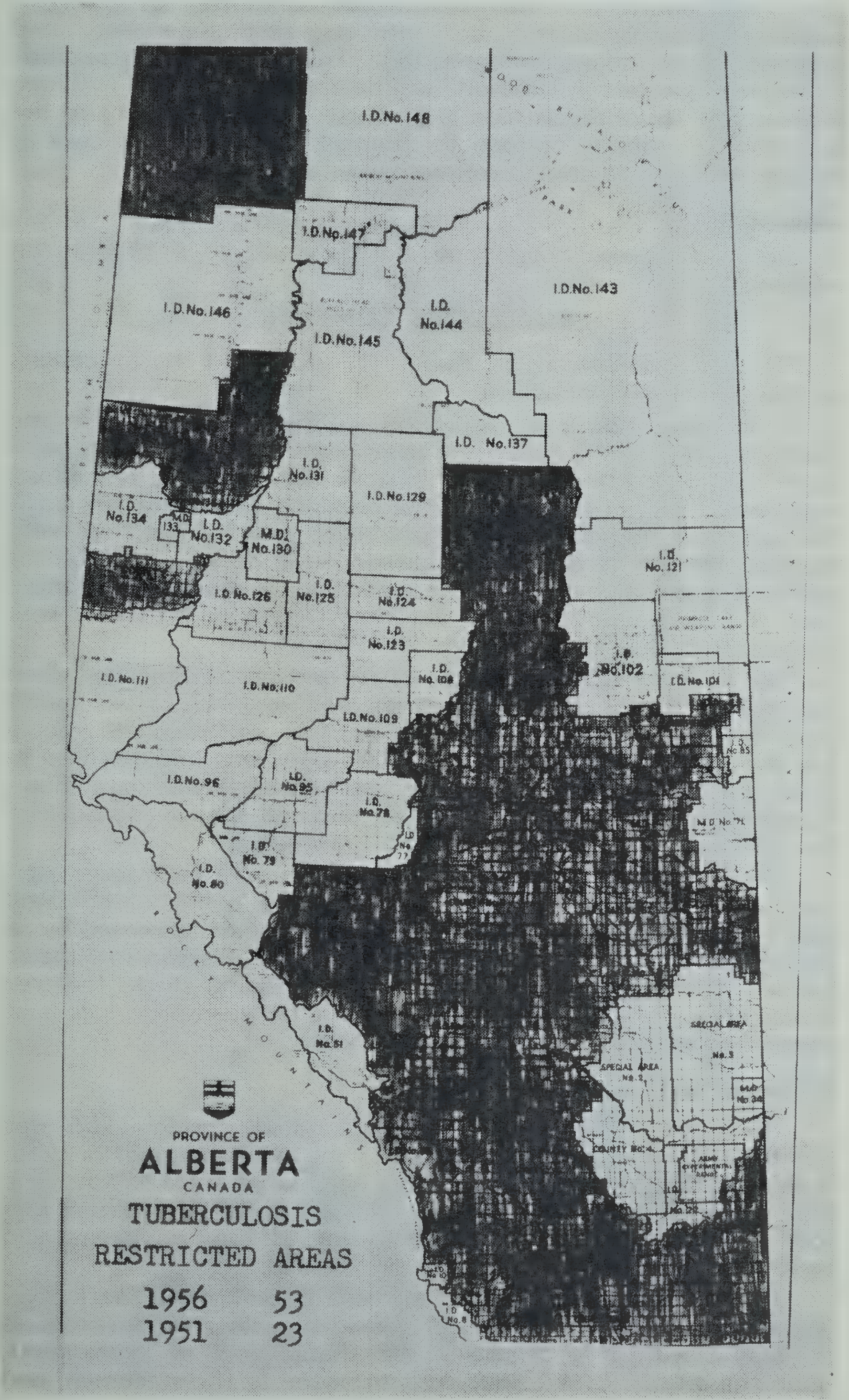
Publicity was reduced, but some was still maintained on the necessity of coyote reduction, as this predator was the main spreader of rabies in agricultural areas, and also to keep people from becoming negligent of bites, etc. Coyote control will be covered more fully in the report of the Field Crops Branch.

T.B. Restricted Areas

The Federal Health of Animals Division greatly speeded up the T.B. testing program by sending out extra veterinary inspectors from Eastern Canada throughout the year.

The Federal Health of Animals Division made very good progress during the year. As many as 8,000 to 11,000 cattle were tested weekly during much of the time. Private practitioners working as part-time employees of the Federal Department of Agriculture have given valuable service in the testing program.

Map II. indicates the present 53 T.B. Restricted Areas compared to 23 in 1951.



Civil Defence

A considerable amount of time was spent by the director on agricultural civil defence. Lectures in biological warfare were given to district agriculturists, and field supervisors at the Agricultural Service Board Conference, and also to Alberta Civil Defence Headquarters. The Agricultural Committee of C.D.H.Q. suggested training district agriculturists, field supervisors, and veterinarians in radiation montitoring. Training schools were started by Headquarters in 1956 and will be continued in 1957. Three members of this Branch took the courses to enable them to determine the usability of food for humans or livestock in case of necessity, and to be able to train other veterinarians.

Addenda

Detailed disease charts and statistics will be printed in an addenda.

BRUCELLOSIS CONTROL

Dr. J. K. Morrow, as of August 1, supervised the brucellosis control and sterility activities.

It is interesting and gratifying to those familiar with the Brucellosis problem in Alberta to observe the excellent results gained in controlling this disease. Historically speaking, brucellosis vaccination first commenced in the province on a voluntary basis through the initiative of the local practising veterinarians. In 1945, the Department of Agriculture developed a definite program of calfhood vaccination by supplying the vaccine and active promotion. Each year showed an increase, but in 1947 only 6,700 calves were vaccinated compared to 259,884 in 1956.

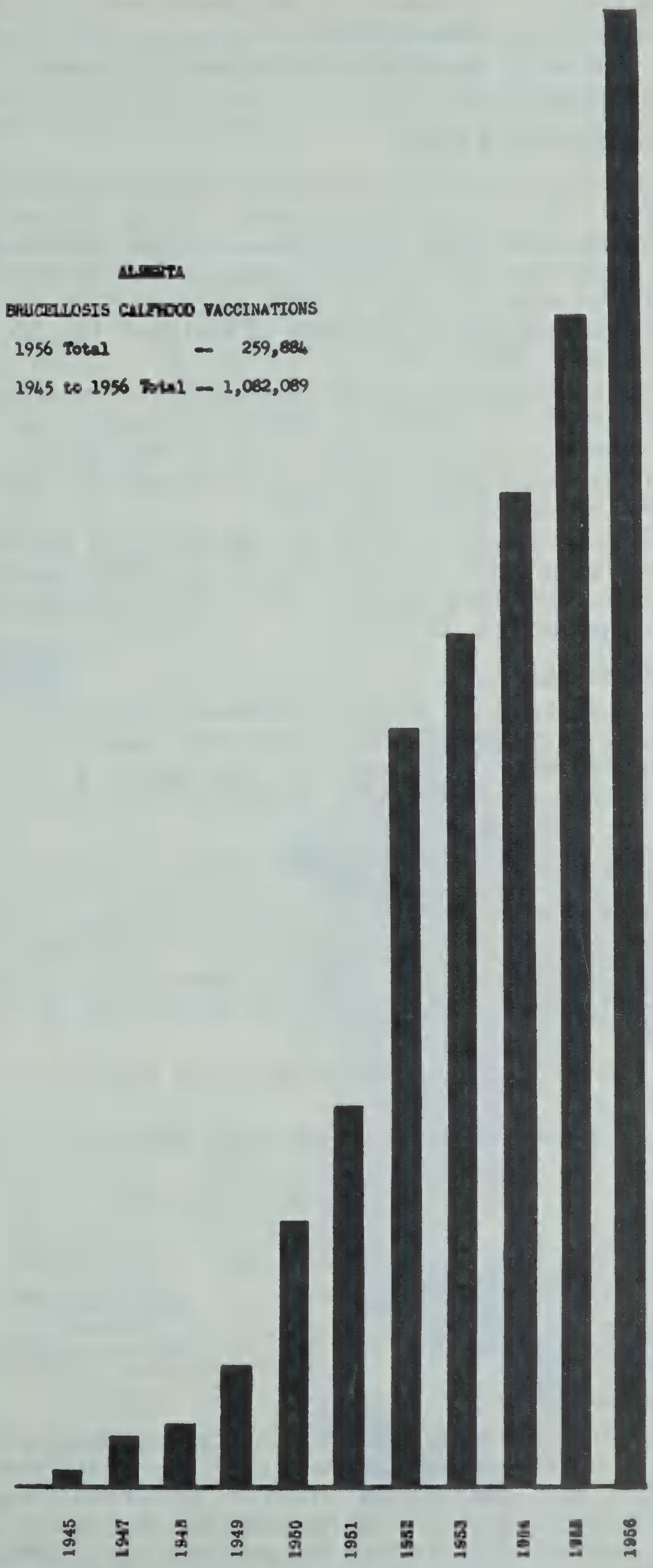
The real control of brucellosis in the province commenced when the stockmen petitioned their neighbours in 1949 in two municipalities for the complete vaccination of all heifer calves. Since the original Brucellosis Restricted Area plan was implemented in 1949, it has been broadened in scope and each year new municipalities and counties have entered into the scheme because of the demands of the stockmen for this protection.

There are other areas in which a great deal of voluntary vaccination is being carried out. This extensive policy of calfhood vaccination throughout the province coupled with increased blood testing is minimizing brucellosis as a problem disease in Alberta herds. With tighter controls governing breeding stock, the free movement of brucellosis vaccinated cattle between provinces is of considerable benefit to the stock producer.

Calfhood Vaccination Program

The total number of calves vaccinated during 1956 was 259,884, an increase of 55,757 over the number done in 1955, making a total of 1,082,089 calves vaccinated since 1945. The Fall vaccination was favoured with excellent weather and road conditions, which aided the work of the organizers and veterinarians.

The veterinary practitioner, who conducts all of the vaccination in the field, deserves a great deal of credit for the splendid progress in coping with this disease. We should like to express our appreciation to the veterinary practitioners, to the stockmen, and



ALBERTA

BRUCELLOSIS CALFHOOD VACCINATIONS

1956 Total -- 259,884

1945 to 1956 Total -- 1,082,089

all the Municipal and Department authorities, who have contributed to the success of this program.

The following chart shows the yearly increase in calves vaccinated since 1945.

Brucellosis Restricted Areas

There are now 31 such areas composed of 27 municipalities and 4 counties. Six new areas were established in the year on the receipt of petitions from the cattlemen in the municipalities or counties concerned, namely: the Country of Grande Prairie No. 1, the M.D. of Leduc No. 75, the M.D. of Stony Plain No. 84, the M.D. of Westlock No. 92, the M.D. of Red Deer No. 55, and the M.D. of Smoky Lake No. 89.

These areas contain well over one-half of the cattle population of the province. In addition to 100% vaccination, all breeding cattle offered for sale at private auction or through the livestock auction markets are blood tested as an assurance of further control of brucellosis. Reactors are branded.

The following map No. III, shows the location of the Brucellosis Restricted Areas. The 31 shaded areas are those municipalities and counties under the program in 1956. The checker board areas show those petitioning for 1957.

Diagnostic Services

Brucellosis infection in cattle is detected in the laboratory by the agglutination testing of blood samples drawn by the veterinarians in the field. The number of these tests conducted by the laboratory during the year 1956 totalled 23,023 which was an increase of 6,743 or 41.4%.

A good many of these tested were made to find out if the milk was safe to drink as many cattlemen are anxious to protect their families from undulant fever. The big increase in blood testing was partly due to some of the larger class D stockyard being in newly established Brucellosis Restricted Areas, more auction sales and the requirements that all sires be blood tested at the major bull sales.

The following table shows the results of blood testing in the animal section of the laboratory.

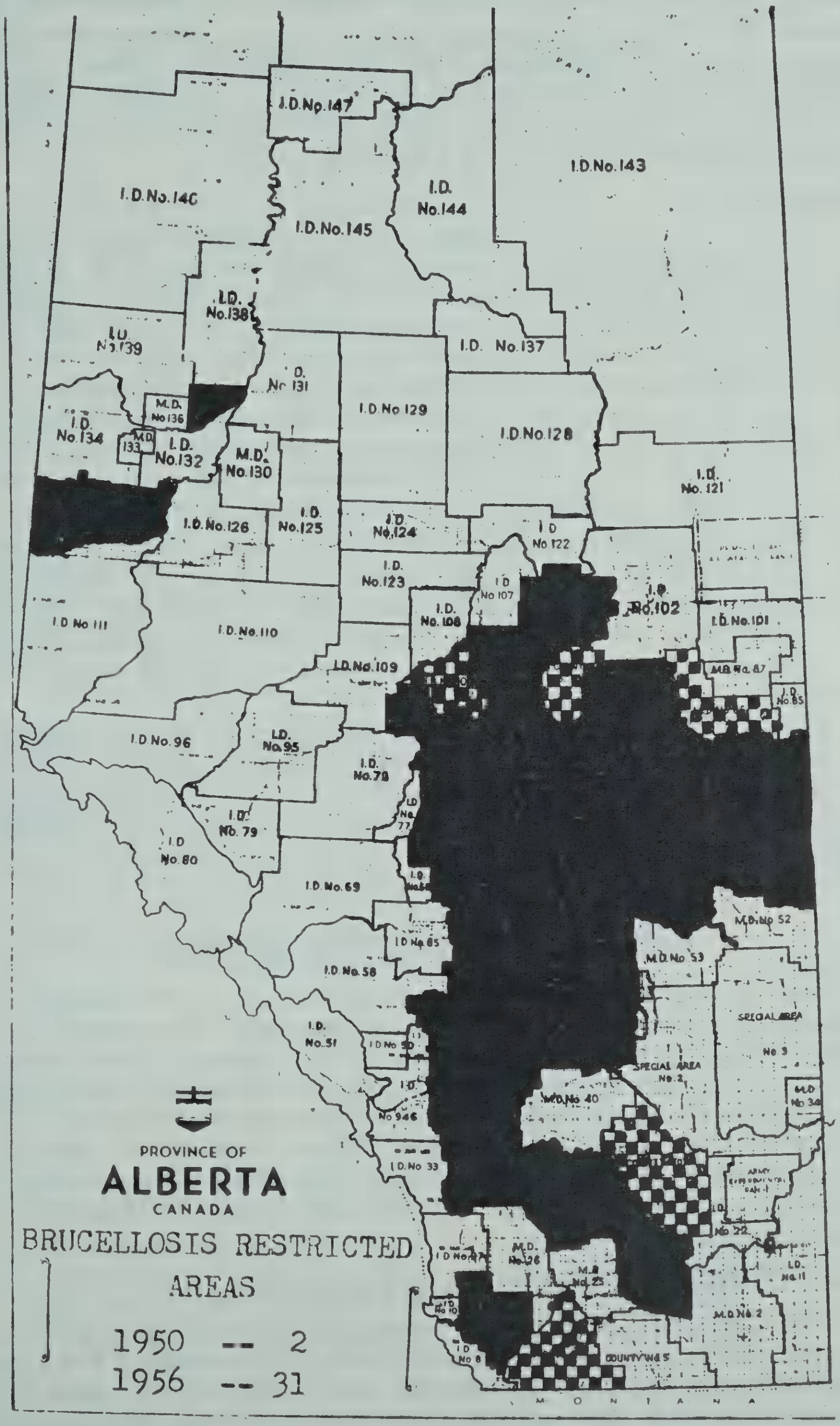
BLOOD TESTS FOR BRUCELLOSIS (BANG'S DISEASE) 1956

	Provincial Blood Tests	Percentage	Dominion Blood Tests	Percentage	Number of Tests	Percentage
Number Positive	1,761	7.8%	....	....	1,761	7.5%
Number Suspicious	1,527	6.8%	4	.7%	1,531	6.6%
Number Negative	19,061	84.4%	604	98.3%	19,663	84.8%
Number of Broken or Hemolyzed, etc.	240	1.0%	6	1.0%	246	1.1%
Total Number of Blood Samples	22,059	100 %	614	100 %	23,023	100 %

Survey Information

Losses from brucellosis in the province have been drastically reduced. In areas in which several years ago there were heavy losses from this disease the infection has been reduced to practically zero. It should be recorded too that the brucellosis program as adopted throughout the province has resulted in the placing of many veterinarians in areas which may otherwise be without veterinary services. At the same time, they are performing a valuable service to the livestock industry.

With increasing Federal and Provincial Brucellosis Control regulations, Alberta breeders will find they will have more freedom of movement with vaccinated females in inter-provincial and export shipments.



Sterility

Breeding problems demanded an increase in the number of investigations during 1956. Poor nutrition and management have proven to be major factors in some of the cases investigated. Brucellosis, because of the controls instituted does not offer the hazard to the stockman, that it did a few years ago. However, vibriosis presents itself as a serious menace to the breeder and increased attention is being paid to this disease. Other infectious diseases, such as Leptospirosis and Trichomoniasis, which affect reproduction, were not found in the province this year. Reproductive organs from both dams and sires in herds presenting breeding problems were received for laboratory study.

Vibriosis

This is an infectious venereal disease of cattle, which has received increased laboratory attention during the year. It is characterized by early abortion and sterility. Since first diagnosed in Alberta in 1954 and its presence made known to the cattle breeders, there have been many reports indicating the presence of this infection in almost all parts of the province. Diagnostic services have been increased to the veterinarian resulting in the receipt by the laboratory of 1,112 blood samples for serological testing and 31 tampons for culturing. In addition to these specimens, 11 bovine foeti or unborn calves were received for culture diagnosis.

At the request of the stockbreeders, there were several meetings held during the year to discuss vibriosis. The way in which the infection may be introduced and transmitted in a herd was outlined. Methods of diagnosis, treatment and prevention were discussed and the economic features of such an infection pointed out to the breeders.

One of the major projects of the laboratory for the coming year will be increased investigation in this problem in herds throughout the province. Further emphasis will be given to informing cattle owners on ways and means of controlling this infection. Considerable publicity has been given on the radio and through the press. A bulletin is being prepared for distribution in 1957.

VETERINARY INSPECTION SERVICE

This service, under the supervision of Dr. H. C. Carlson, is charged with the responsibility of supervising the inspection of class "C" and class "D" stockyards of the province. Regulations governing the licensing and operation of class "C" stockyards (Buying Stations) and class "D" stockyards (Auction Markets) went into effect on January 1st, 1956. These regulations were felt necessary to eliminate as much as possible the dissemination of infectious and contagious diseases of livestock through these classes of stockyards.

Class "C" Stockyard Regulations and Inspection

The Class "C" Stockyards, commonly called Buying Stations, are confined mainly to the Edmonton area. There were 13 of these establishments licensed during the year. Regulations regarding concreting of the surface area, providing buildings for livestock, maintenance and upkeep of the facilities, providing truck washing facilities, and the cleanliness of the premises, were enforced. The re-handling of livestock through this type of stockyard is limited to forwarding the animals to a class "A" stockyard (Edmonton Stockyard) or a class "B" stockyard (Packers Stockyards). No animals are allowed from the class "C" stockyard back into a farm or feedlot. Periodic inspection of class "C" stockyards was undertaken, to see that the regulations are conformed to, with regard to construction and sanitation.

Class "D" Stockyard Regulations and Inspection

The Class "D" Stockyards are the local livestock auction markets scattered in towns throughout the province. There were 21 class "D" stockyards licensed during the year.

Regulations regarding concreting the surface areas, providing a building for sheltering livestock, facilities for handling livestock, and cleansing and disinfection of the premises were enforced. The largest volume of livestock handled through the class "D" stockyards are destined to be returned to farms and feedlots for further feeding. A veterinary inspection service utilizing the local practicing veterinarian in each area was inaugurated. The veterinary inspector is hired by the Department and is in attendance at each sale at the local class "D" stockyards. His duties are to inspect all cattle, swine, sheep, and horses presented at the stockyards. A total of 155,539 were inspected, of which 2.7% present were rejected. Animals found infected with any infectious or contagious disease, that would constitute a hazard to prospective purchasers, are refused admittance to the stockyards, or sold only for immediate slaughter or ordered returned to the premises of origin. 37 veterinarians were appointed as inspectors for class "D" stockyards.

Several problems presented themselves in initiating an inspection service at the class "D" stockyards. The inspection is based on visible evidence of disease, on the date of sale, and it was necessary to establish uniformity of inspection between the individual inspectors. Some effort was necessary to determine a means of identifying animals in the incubation stages of disease and which may appear healthy. This problem has yet to be overcome to the satisfaction of all concerned. It becomes necessary to educate the public regarding this inspection service and its purposes. The following charts illustrate the class "D" stockyards, with the total number of animals passed and rejected at each. Cattle were rejected for cancer-eye, coccidiosis, cow-pox, foot rot, lice, lump jaw, mastitis, metritis, pink-eye, pneumonia, renal infection, ringworm, scours, shipping fever, stomatitis, septicaemia, and warts. Hogs were rejected for arthritic, conjunctivitis, dermatitis, encephalitis, enteritis, erysipelas, influenza, mange, pneumonia, rhinitis, and septicaemia. Sheep were rejected for infectious sore mouth, and one horse for carcinoma.

The operators of both class "C" and "D" stockyards are to be commended for their excellent co-operation in improving the facilities and giving every assistance to the inspectors.

The following chart shows the inspection activities.

CLASS "D" STOCKYARDS

Stockyard	Cattle		Swine		Sheep		Horses		Total	
	Passed	Rejected	Passed	Rejected	Passed	Rejected	Passed	Rejected	Passed	Rejected
Market "A"	17	2	77	....	5	....	....	....	99	2
Market "B"	1,747	7	3,262	161	58	....	69	....	5,136	168
Market "C"	224	17	1,031	285	42	....	2	....	1,299	302
Market "D"	5,093	85	1,892	26	3,227	....	57	1	10,269	112
Market "E"	32	1	152	....	....	....	3	....	187	1
Market "F"	4,775	90	7,638	383	164	....	64	....	12,641	473
Market "G"	170	2	245	22	1	....	....	....	416	24
Market "H"	369	3	95	5	8	....	7	....	479	8
Market "I"	183	....	136	13	....	....	2	....	321	13
Market "J"	2,427	54	5,025	154	357	....	256	....	8,065	208
Market "K"	216	....	470	17	19	....	....	....	705	17
Market "L"	5,591	20	12,871	742	180	23	134	....	18,776	785
Market "M"	1,192	18	3,115	155	49	....	26	....	4,382	173
Market "N"	2,462	58	7,585	302	125	....	320	....	10,492	360
Market "O"	14,777	167	29,914	812	1,220	....	751	....	46,662	979
Market "P"	7,669	32	4,898	196	58	....	549	....	13,174	228
Market "Q"	1,006	48	3,418	227	57	....	6	....	4,487	275
Market "R"	10,700	109	....	....	....	....	....	....	10,700	109
Market "S"	341	5	276	....	12	....	5	....	634	5
Market "T"	117	2	336	3	....	....	56	....	509	5
Market "U"	1,376	22	404	2	....	....	56	....	1,836	24
TOTALS	60,480	742	82,840	3,505	5,582	23	2,363	1	151,269	4,271
TOTAL INSPECTED	61,226		86,345		5,605		2,364		155,540	

EXTENSION

The extension activities under the direction of Dr. J. G. O'Donoghue, include lectures at the University of Alberta and Schools of Agriculture, investigational and service trips, supervision of the health of government herds, and participation in the supervision of disease control programs.

Investigational and Service Calls

Cattle	67
Swine	41
Sheep	5
Horses	2
Fur Animals	11
TOTAL	126
Meetings	59
Lectures	81

Investigational Notes

The following are brief reports on sponsored program projects and disease conditions of current interest and economic importance.

1. Cattle

In the winter and spring of 1956 there was an acute shortage of hay and roughage particularly in the area from Red Deer north, due largely to the early snows in the fall of 1955 which resulted in an extended winter feeding period. There were many confirmed and reported losses from malnutrition. The situation was also reflected in a higher than usual disease loss.

(a) Vitamin A Deficiency

Despite the increased use of vitamin A supplements and improved hay and silage, this deficiency continues to cause losses in calves and yearlings. There are deaths from acute deficiencies as well as losses in animals suffering marginal deficiencies. Present evidence seems to indicate that the problem is more complex than a simple dietary lack of the vitamin.

In 1956 blood samples were collected from selected cases, including normal animals for plasma vitamin A and carotene determinations. The results of this survey further confirmed the vitamin A deficiency diagnosis and indicated that many so-called normal animals had low vitamin A blood levels.

The present grain surpluses have resulted in an increase in the number of cattle being placed on feed in the province. In many of these operations the roughage part of the ration consists of straw or poor quality hay, a diet which could readily result in vitamin A deficiency.

A point of interest has been the experience that where a supplement has been fed not only were frank deficiencies prevented, but the animals showed a general overall improvement.

(b) Clostridial Infections

There have been serious losses from blackleg and malignant oedema in the Peace River block. They have been the result of the development of livestock enterprise in the area and the unfamiliarity of cattle owners with these common diseases. Efforts have been made to promote the routine use of suitable biologics to prevent these losses.

Isolated outbreaks of clostridial infections, other than blackleg or malignant oedema, continue to occur. Cattle were lost on two premises from pulmonary emphysema, the result of Clostridium perfringens and lush pastures. Suitable preventative measures can be instituted for these individual cases.

2. Swine

(a) Inspections

As required by the regulations governing the Advanced Registry Assistance Bonus, 27 purebred swine premises were inspected. No applicant was rejected because of infectious disease or unsatisfactory sanitation standards, although provisional approval only was given in five instances.

The premises of origin of all swine nominated for the Royal Winter Fair were inspected for atrophic rhinitis.

(b) Atrophic Rhinitis

There are few purebred herds infected with rhinitis, but the disease is not uncommon in commercial droves. The problem of both control and inspection is made difficult by the development of chronic infections in which only a few pigs in a drove will show clinical symptoms or nasal abnormalities. The lack of definite diagnostic procedures offers further complication.

When dealing with purebred herds it is now required that if there is the suspicion of rhinitis an animal must be submitted to the laboratory for complete examination.

(c) Erysipelas

This disease continues at a high incidence. It is the most important infectious disease of swine in the province. Good management practices and prompt recognition of the disease are as important as the use of biologics in its control.

3. Fur Animals

In 1956, 9 mink ranches were quarantined for distemper.

Virus enteritis, a serious disease in Ontario and Manitoba, has not occurred in Alberta. Research workers have demonstrated a possible relationship between this disease and feline distemper. Since feline distemper is common in Alberta, experiments were carried out to determine whether or not feline distemper as it exists in this province could constitute a hazard to mink. Mink exposed to material taken from infected cats failed to show any signs of illness.

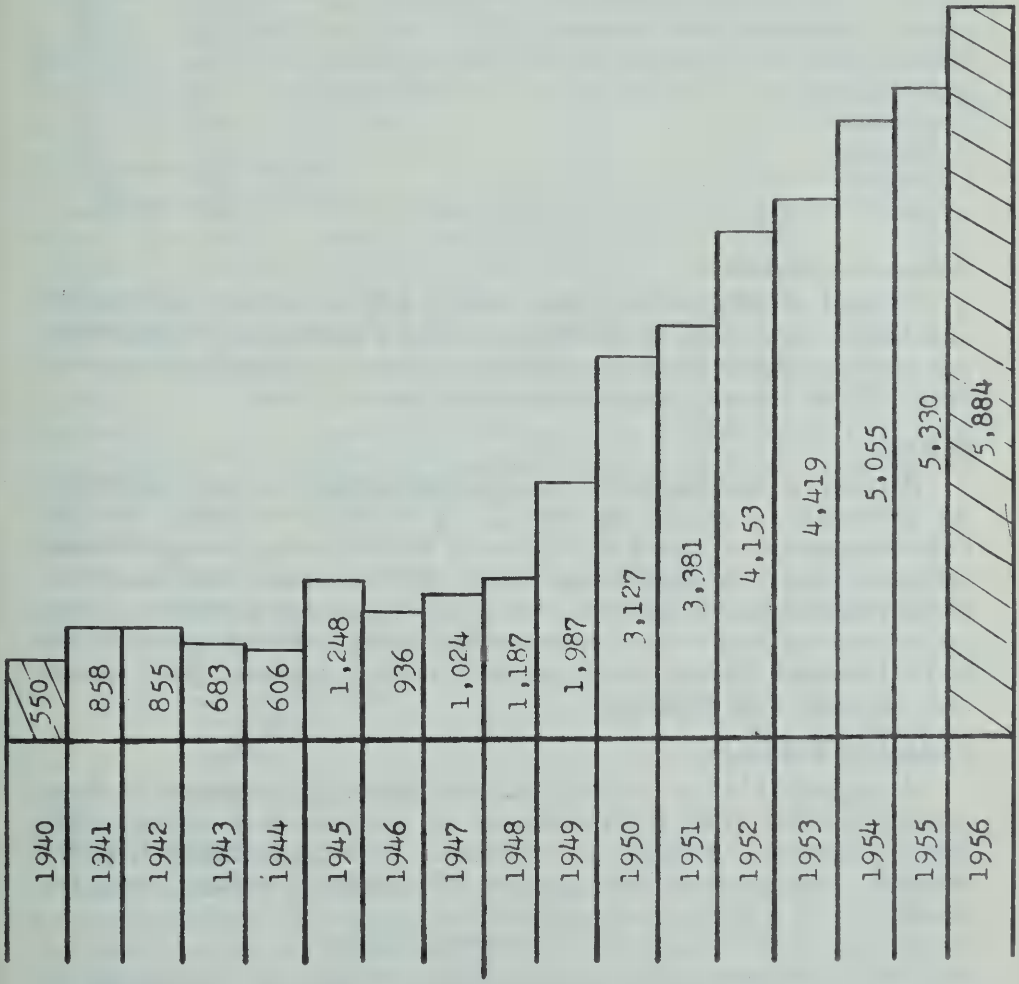
4. Arsenic Poisoning

Arsenic has been responsible for the majority of mineral poisonings of domestic stock. Sublethal concentrations of arsenic are frequently encountered in routine stomach contents analysis. In all but a few cases it has been impossible to find the source of the arsenic. This problem was reviewed in 1956, with a tabulation of all arsenic poisonings, histories and pertinent data. A survey of all chemicals and materials used in agriculture was also made to determine which if any contained arsenic.

The results of this work indicated that common agricultural chemicals do not contain arsenic, that arsenic in some soils could be responsible for its presence in small amounts in stomach contents, but that the source in many acute poisonings remains unknown.

ANIMAL DISEASES SECTION

The animal disease section of the laboratory, under the direction of Dr. G. S. Wilton, assisted by Dr. H. N. Vance, examined 5,884 specimens from 24 species of animals in 1956 compared to 5,330 in 1955, showing a 10% increase. The number of consignments increased from 2,318 to 2,442. Approximately 60% of the submissions examined were from cattle and swine, 1,602 and 1,839 respectively. In addition, 23,203 bovine blood samples were tested serologically for brucellosis, compared to 16,280 the year previous. Required blood testing of bulls for the spring bull sales caused some of the increase, 1,112 bovine bloods were tested serologically for vibriosis.



ANIMAL SPECIMENS

DIAGNOSED SINCE OPENING LABORATORY

SPECIMENS

Species	Live	Dead	Portions	TOTALS
Antelope	....	....	1	1
Bear	....	....	1	1
Beaver	1	....	2	3
Caribou	....	....	4	4
Cat	2	16	22	40
Cattle	17	57	1,528	1,602
Chinchilla	12	54	6	72
Coyote	....	2	7	9
Deer	....	1	8	9
Dog	2	60	220	282
Elk	....	....	2	2
Goat	....	1	....	1
Guinea Pig	1	23	....	24
Horse	....	....	20	20
Mink	43	136	9	188
Moose	....	....	24	24
Monkey	....	....	4	4
Mouse	1	17	....	18
Mura	2	3	....	5
Muskrat	....	2	1	3
Porcupine	....	....	4	4
Rabbit	4	15	6	25
Sheep	10	39	95	144
Swine	113	349	1,376	1,838
Laboratory Animals	....	....	381	381
Blood Samples	....	....	143	143
Fecal Samples	....	....	73	73
Feed Samples	....	....	86	86
Milk Samples	....	....	468	468
Semen Samples	....	....	60	60
Urine Samples	....	....	32	32
Water Samples	....	....	64	64
Miscellaneous Samples	....	....	254	254
TOTALS	208	775	4,901	5,884

Laboratory Animals

A total of 381 guinea pigs, mice, rabbits, swine, mink, cattle, and lambs were used to assist in making a diagnosis, to determine the pathogenicity of the bacteria isolated and for experimental work. They were carefully examined and cultured.

Poisons

A total of 472 samples from animal specimens were examined for evidence of poison by Mr. C. E. Noble, Provincial Analyst. Poisoning was confirmed in 140 cases, the following being the more common types, in descending order of frequency; arsenic, plant, carbon monoxide, strychnine, mercury, lead, salt and nitrate. With an increasing number of chemicals finding various uses on the farm, livestock owners must use great care in ensuring their proper use, storage, and disposal.

Biological Products

Autogenous bacterins and vaccines have been prepared at times throughout the year at the request of veterinarians to help fight certain disease outbreaks in livestock. The table below lists the product, the amount, the species of animal involved, and the disease.

Product	Amount in C.C.'s	Species of Animal	Disease
Autogenous wart vaccine	990	Bovine	Bovine Papillomatosis
Autogenous wart vaccine	16.5	Canine	Canine Papillomatosis
Autogenous Canine Distemper Vaccine	2,250	Canine	Distemper
Autogenous Mink Distemper Vaccine	4,550	Mink	Distemper
Autogenous Mixed Bacterin	1,750	Bovine	Pasteurellosis
Autogenous Mixed Bacterin	375	Bovine	Mastitis

Nutritional Diseases

Diagnostic work at the laboratory indicates that at least 75% of the losses in baby pigs, lambs, young calves, baby mink, etc., could be prevented by better feeding and management.

There were 41 cases of anemia in young pigs. Nutritional anemia in mink continues to be a problem. There were 88 cases of vitamin A deficiency in swine, 37 in cattle, 20 in sheep, one in a goat, and one in a deer. We diagnosed rickets in 30 swine specimens, 13 mink, and one chinchilla. Chastek paralysis caused by a vitamin B deficiency was found in 10 mink specimens.

Salmonellosis (Paratyphoid)

This infection is transmissible to man and is therefore of public health importance. Isolations were made from 14 outbreaks in hogs, one in each of guinea pigs, cattle, lambs, and a porcupine.

Swine Eryspelas

Laboratory diagnosis of swine erysipelas have remained at a fairly constant level for the past 3 years. Cultures of the organism isolated in Alberta have been sent to other laboratories for research purposes. This research indicates that the Alberta strains cause a more severe form of the disease than strains sent from other provinces. The disease continues to be a problem in many herds, but it is hoped that research will enable us to control the disease more effectively in future.

Gut Oedema of Swine

It has only been within the past few years that we have recognized "gut oedema" as a swine disease entity in Alberta. During the year we have diagnosed the condition on 10 different premises. Outbreaks occurred in the widely separated points of Sedgewick, Brooks, Acme, Drumheller, Stettler, and Edmonton.

In Alberta most outbreaks followed some change from the normal, such as recent weaning, purchase, change in feed, or vaccination, etc. However, at other times owners have been unable to point to a relatively recent change. Six of the outbreaks occurred in young pigs between two and three months of age.

Mastitis

The practitioners submit a number of individual milk samples many of them from acute cases of mastitis. The following table shows the type of bacteria isolated.

Hemolytic staphlococci	122
Hemolytic streptococci	58
Hemolytic coli	4
Mixed Infections (staph., strep., coli)	23
Negative	261
TOTAL	468

Bovine Foetuses

One hundred and eleven (111), aborted foeti from cattle were submitted to the laboratory for examination purposes. On culture, Brucella abortus was islolated from 13 foeti and Vibrio fetus from 10 specimens. Listerella monocytogenes was recovered from one foetus and Salmonella oranienburg was recovered from another.

Salmonella typhi-murium was isolated from an aborted lamb foetus.

Mucosal Disease

This is a relatively new disease, and 5 cases were recognized in this year's specimens. The disease is important in that it resembles some of the very serious animal plagues prevalent in

Asia and Europe, and does not respond to any known treatment. Fortunately, it affects only a relatively small number of animals in an infected herd.

Several trips were made to affected premises, and attempts were made to transmit the disease to calves and other experimental animals at the laboratory. Specimens were also forwarded to a laboratory with facilities for virus work for further studies.

Sheep Diseases

The laboratory examined 144 sheep specimens during the year. The condition most often diagnosed was pneumonia caused by Pasteurella multocida, and other infections. Enterotoxemia is another important disease. Pregnancy disease, metritis, navel infection, necrophorous infection, stomach worms, tapeworms, plant poisoning, chemical poisoning, were a few of the other conditions found.

Mink Diseases

188 mink specimens were examined during the year which was again a slight drop from the previous year. Fortunately, only 9 outbreaks of distemper occurred. 39 infected animals were examined. More of the ranches are adopting the policy that prevention is better than cure and are vaccinating their breeding stock in the Fall after pelting and their young after weaning. Steatitis or yellow fat, very prevalent in 1955, was less frequently diagnosed in 1956, suggesting that the ranchers have been taking better care of their feed and including vitamin E in the ration.

One of the greatest causes of losses in mink was due to food poisoning such as Salmonella infection, toxins from staphlococci in the feed, etc. Some ranchers mixed the feed and held it too long. Others stored the mix in galvanized containers for a period of time, all of which gave rise to food poisoning. 18 animals from one ranch died from carbon monoxide poisoning. Avian tuberculosis was diagnosed in two specimens from another farm.

Pneumonia, pregnancy disease, nursing sickness, nutritional anemia, chastek paralysis, rickets, urinary calculi, and cystitis were a few of the more common conditions.

Chinchilla Diseases

There were 72 chinchilla specimens examined. A few of the common conditions found were: pneumonia, listerellosis, giardia, toxemia of pregnancy, impactions, and other digestive disturbances. Ringworm infection was found on one ranch and most of the animals in the herd were infected. The owner often held the animals in her arms and an infection set in involving the greater part of the back of her forearm. Several lesions also developed on the owner's forehead.

The ringworm was well advanced in the herd before the laboratory was contacted. The diagnosis was made and it was suggested that the owner have her veterinarian treat the animals and that she see her physician.

Wild Life Diseases

The laboratory examined 18 moose, 9 deer, 4 caribou, 2 elk, 4 porcupine, 4 monkey, 3 muskrat, 3 beaver, 1 bear, and 9 coyote specimens during the year. They were submitted by veterinarians, members of the Game Branch, the Department of Zoology at the University of Alberta, and by the Department of National Resources including the Parks Department.

Hunters submitted many of the big game specimens seeking advice upon finding that their victims were not 100% healthy. Many of their specimens were affected with the intermediate stage of the Taenia tapeworms or the Echinococcus granulosus. The species of tapeworm most often seen are: Taenia hydatigena (Cysticercus tenuicollis—the thin necked bladder worm), and Taenia krabbei (Cysticercus tarandi). Less hydatid disease (Echinococcus granulosa) was noted this year than for several years.

Some of the specimens were submitted for rabies examination, while others were found to have been affected with parathyphoid, pasteurella and other forms of infection.

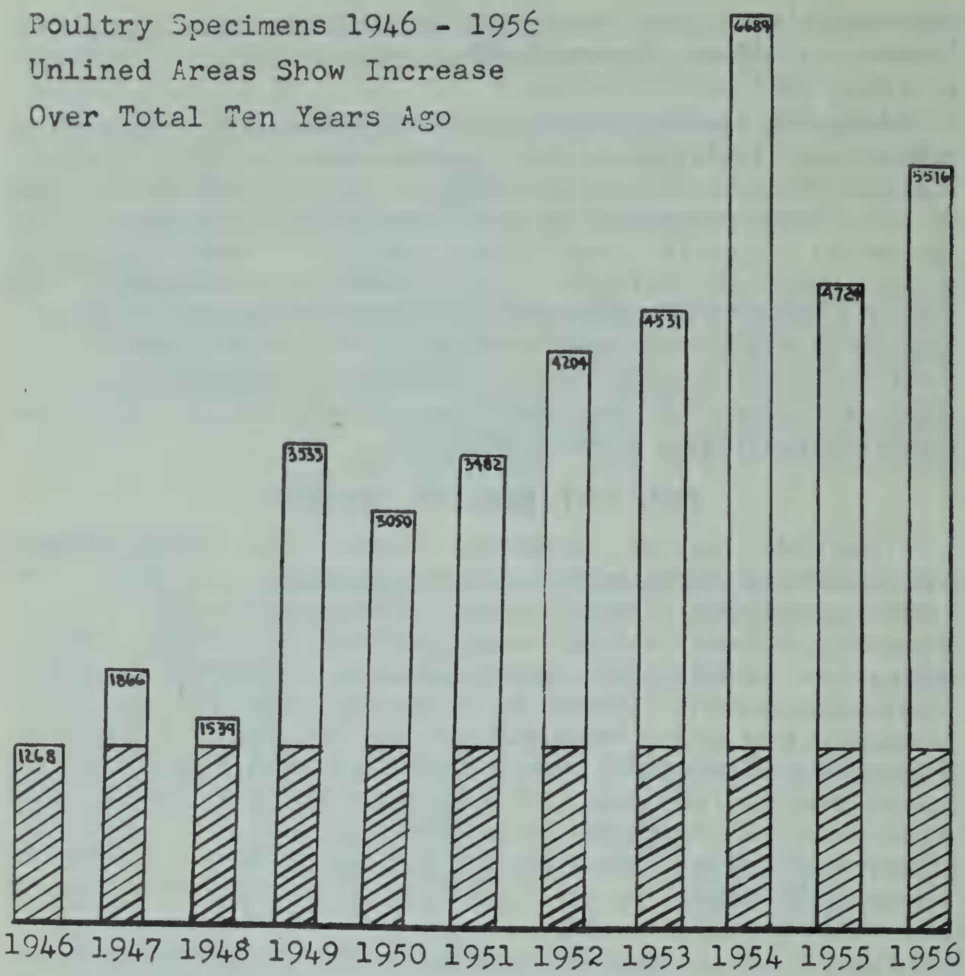
POULTRY DISEASE SECTION

The poultry section is under the direction of Dr. C. H. Bigland, with assistance from Dr. H. N. Vance during rush periods. The first responsibility of this section is the accurate diagnosis of disease conditions in specimens submitted by farmers, veterinarians, and others in the poultry industry. Information gained from examination is given to those concerned as quickly as possible so that control and treatment may be carried out promptly. This service is especially important to the poultry industry, whose nature makes it very susceptible to heavy loss from disease. Of equal or more importance to profitable poultry production is a program of disease prevention, and the poultry section staff gives advice in this regard to many individuals, through personal contact and meetings.

The volume of specimens handled again increased considerably as seen in the accompanying graph. A total of 5,516 birds or portions were examined during the year. This is an increase of 16% over 1955, and illustrates increasing recognition of the value of accurate diagnosis, with control and treatment based on an accurate diagnosis. The approximate number of persons utilizing the poultry laboratory services was 2,200. In spite of the fact that an average of 22 specimens were examined each working day, care in taken to ensure that all factors are considered, and examination may include autopsy, bacteriology, serology, virology, hematology, histopathology, parasitology, mycology and chemical analysis. The complexity of disease makes facilities for all the above examinations essential for accurate diagnosis. Again, a large number of different disease conditions (almost 200) were diagnosed.

A decrease in blood samples handled this year (from 7,591 in 1955 to 1,264 in 1956) was largely due to the fact that no infectious bronchitis serological survey was carried out, as it was in 1955.

In addition to examination of specimens, much time is spent on correspondence to ensure that information as complete as possible regarding the disease which may be present in their flock, is passed along as quickly as possible to owners. It is estimated that ¼ of our working time is spent in this way, and a total of 3,792 letters and 379 telegrams were sent out during the past year, in addition to many telephone calls.



Poultry Disease Picture

From an over-all viewpoint, the poultry industry suffered no serious set-backs from disease during the past year, however, there was an increase in some respiratory diseases. A respiratory condition affecting baby chicks and poults was prevalent in the spring, but was not as widespread nor a serious as the outbreak in 1954. There was an increase in cases of chronic respiratory disease and laryngotracheitis over 1956. A slight drop in cases of avain tuberculosis was accompanied by a corresponding increase in the leukosis complex. Using laboratory specimens as a yardstick, paratyphoid, typhoid, and carbon monoxide poisoning cases in 1956 were roughly double that in the previous year, while cases of pullorum were down slightly.

Losses from specific diseases were again overshadowed by numerous losses which were primarily due to faulty feeding and management. Small farm flocks are the chief victims in this respect, with larger operators generally keeping a close check on these factors.

Respiratory Diseases

The attached chart shows the incidence of some of the more important respiratory disease 5 years ago and during the past two years. The condition which affected baby chicks and poults last spring appeared very similar to the previous outbreak in 1954 but was much less severe. Most cases were in chicks (558) while only 9 turkey poults were found affected. This condition is probably primarily due to infectious bronchitis. The decrease in extent and severerity was, we feel, at least partly due to exhortations from this department to vaccinate supply flocks against infectious bronchitis. Several hatcheries insisted on this being done before accepting hatching eggs, and chicks from these hatcheries had minimal losses during the outbreak.

Year	Respiratory Disease Baby Chicks & Poults (Cause not Confirmed)	Chronic Respiratory Disease	Laryngo-tracheitis	Fowl Cholera	Newcastle Disease
1951	0	0	61	36	154
1955	66	89	20	77	0
1956	567	193	23	68	0

The necessity of a program to control respiratory disease losses has prompted more extensive vaccination of supply flock this year, and figures supplied by the poultry branch indicate that 325 of 1,098 approved flocks have been vaccinated against infectious bronchitis. Some of these flocks were also immunized against Newcastle disease. Figures on importations of vaccine into Alberta during the 12 month period ending October 31, 1956, indicates that 401,550 doses of Newcastle disease vaccine, 322,750 doses of infectious bronchitis vaccine, and 58,000 doses of combined IB-ND vaccine were distributed in the province. A large proportion of this vaccine was used in broiler flocks.

Chronic Respiratory disease (C.R.D.) increased from 38 premises in 1955 to 64 this past year. Most cases of C.R.D. have been found in broiler flocks, where it is a serious problem. One of the sources of the disease is the supply flock, and as part of a program intended to produce "C.R.D.-clean" chicks and poults, 1,234 bloods from these flocks were tested by the laboratory for evidence of the disease. Of 27 flocks tested, only 2 were found completely free of reaction to the blood test. A special culturing technique was used in 296 specimens and confirmed the presence of the C.R.D. agent in 142 cases.

Laryngotracheitis cases seen during the past year were relatively mild compared to the disease as seen in Eastern Canada and the U.S.A.

There were no confirmed cases of Newcastle disease in Alberta during 1956.

Carbon Monoxide Poisoning

One hundred and eighty-eight (188) cases of carbon monoxide poisoning were diagnosed, compared to 85 in 1955. This considerable loss can be almost entirely eliminated by careful attention to brooder heating equipment.

Paratyphoid

The number of paratyphoid infections increased from 152 cases from 80 farms in 1955 to 352 from 102 farms in 1956. In addition to the importance of this disease as a threat to the poultry industry, the reservoir of organisms in domestic birds and animals poses a problem to human health. The Alberta Public Health Laboratory has classified isolations from poultry specimens as follows:

SALMONELLA PARATYPHOID ISOLATIONS 1956

S. anatum	1
S. bredeney	4
S. heidelberg	1
S. kentucky	1
S. manhattan	4
S. montevideo	1
S. newington	6
S. oranienburg	1
S. thompson	50
S. typhi-murium	22
S. rough (not typable)	1
Not typed	8
TOTAL	100

Pullorum Disease

Salmonella pullorum, the causative agent of this disease, was isolated from 121 chicks and 11 poults submitted from 60 different premises during the past year. This is a considerable decline from 1955, when 234 poults and chicks from 86 different premises were found infected.

The total of cases for 1956 is lower than at any time since 1953 despite the growth of the poultry industry during that period. Continued testing of supply flocks, and elimination of any reactor birds, is the main cog in controlling pullorum losses in baby chicks. This work is carried out by the Provincial Poultry Branch. Proper fumigation of hatcheries is also of great importance in controlling this infection.

Typing of S. pullorum organisms isolated from all parts of Canada is carried out at the Ontario Agricultural College. This work is essential to ensure that an antigen sensitive to the prevalent strains of the organism can be made available for supply flock testing. The following table lists the typings of organisms isolated in Alberta from 1950 to 1956.

	1950	1951	1952	1953	1954	1955	1956
Standard	22	34	70	58	86	34	65
Variant	2	5	39	21	48	10	28
Intermediate	9	7	11	30	9	31	0
Not Typed	0	0	0	0	0	10	4
TOTALS	33	46	120	109	143	85	97

Careful post mortem examinations were made on 78 birds submitted by the poultry branch and showing questionable reactions on the rapid whole blood pullorum test. S. pullorum was isolated from 31 of the birds submitted. This work is part of a program which ensures as accurate a pullorum blood test as possible for supply flocks.

Fowl Typhoid

Premises found affected with Fowl Typhoid increased to 23 from 14 in 1955. This disease is still confined, with few exceptions, to an area East of Edmonton about 50 miles in diameter. Equal numbers of chickens and turkeys were submitted with this disease.

Avian Leukosis Complex

This disease was the most commonly diagnosed in adult chickens. The type found most frequently was Visceral lymphomatosis, or "big liver disease", with 205 cases. This disease is still very prevalent because of the fact that it is so difficult to control. The development of Leukosis resistant strains of birds assists in reducing mortality from the disease.

Avian Tuberculosis

This is the second most common killer of adult chickens and in addition causes great economic loss through condemnation of infected swine carcasses. The observance of a few simple rules of sanitation would almost entirely eliminate this disease in Alberta, as it has in many other areas in Canada and the U.S.A.

Newer Diseases

Fortunately no new serious contagious diseases were found in submissions last year. Several troublesome conditions did appear for the first time, and other relative newcomers continued to cause distress.

Internal Hemorrhage in Turkeys—This was seen as a specific disease for the first time in 1956. The hemorrhage is due to a dissecting aneurysm of the largest artery in the body and causes very sudden death. The exact cause is unknown. Two flocks of young turkey poults were found affected.

Arizona Paracolon Infections—Seven isolations of an Arizona paracolon organism were made from 5 flocks of turkey poults and one flock of chicks. Five of these six flocks originated from one hatchery, and circumstantial evidence indicates that the disease was brought in with turkey eggs imported from Southern California, where the infection is quite common.

Hexamitiasis—Only 2 cases of Hexamitiasis were diagnosed this year, but one of the cases caused very heavy mortality in a large turkey flock.

Round Heart Disease—increased to 15 affected farms in 1956. Because the cause of this disease is not known, effective methods of control and treatment are not available.

Avian Encephalomyelitis—3 cases were seen in 1956. We are fortunate that the relatively low incidence of this disease has not increased during the few years since it first appeared in the province.

Infectious Hepatitis—one suspicious case was seen in 1955; 10 flocks were affected this year.

Poultry Disease Extension

The major project this year was a twenty-minute, color sound motion picture on poultry diseases. Much time has been devoted to this work in 1956, although preparatory efforts were begun 4 years ago. All of the camera work was completed, and it is expected that the movie will be ready early in 1957. The annual short course for hatchery operators was presented through the joint efforts of this branch and the poultry branch. Two producer groups were addressed, and three field investigations were undertaken. A lecture on poultry diseases was given at the Vermilion School of Agriculture, and an address given at the Western Canada Hatcherymans Association.

Scientific Presentations

Two papers were submitted for publication in the Canadian Journal of Comparative Medicine. A paper was also submitted for presentation at the annual Dominion Poultry Pathologists Conference, and an address given at the Alberta Veterinary Medical Association Convention.

Other Work

Autopsies for data on all birds lost during experiments were carried out for an Alberta hatchery operator conducting a broiler performance trial, and during an experiment on pheasant nutrition at the University of Alberta. A considerable number of wildlife specimens (68) were autopsied for data in this field, with birds submitted by several interested parties. Cultures of Erysipelas organisms isolated from Alberta turkey flocks were prepared and shipped to another laboratory for research purpose. The annual short course in pullorum testing was held in conjunction with the Poultry Branch. A refresher course in poultry pathology was attended in New York State. Experiments on the efficacy of a new drug against Salmonella paratyphoid and Salmonella pullorum infections were carried out.

MICROPATHOLOGY SECTION

This section, under the direction of Dr. F. E. Graesser, functions as a vital adjunct to the diagnostic services which are provided by the laboratory. It is concerned primarily with the processing and histopathological interpretation of sections prepared from animal tissues. These are submitted, for the most part, by the Animal and Poultry disease sections of the laboratory, supplemented by submissions from practising veterinarians. Characteristic pathological changes are produced by many diseases, and an accurate diagnosis depends upon their recognition. Frequently, such changes may be detected only by a microscopic examination of certain tissues or organs. Histopathological examination is of particular value in diagnosing such virus diseases as distemper of mink and dogs, infectious canine hepatitis, rabies, and virus pneumonia of pigs. In other cases it frequently provides the only means of differentiating between conditions which, while clinically and grossly alike, are actually separate disease entities. Mucosal disease and malignant catarrh of cattle provide an excellent example of two such diseases.

Other activities carried on by this section include the production of photographic slides, transparencies, and prints for use within the Branch, and the preparation and mounting of gross specimens for extension purposes.

1. Histopathological Work

During the year 1,729 tissue sections were prepared from a total of 1,490 submitted tissues. The following table depicts, by species, the volume of work accomplished.

TABLE I

DOMESTIC ANIMALS

Bovine	241
Canine	279
Equine	6
Feline	26
Porcine	133
Ovine	27
*Miscellaneous	47
TOTAL	759

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*Includes: coyote, mountain sheep, beaver, deer, buffalo, moose, porcupine, wolf, elk, guinea pig, rabbit.

POULTRY

Chicken	386
Turkey	77
*Miscellaneous	35
TOTAL	498

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*Includes: budgerigar, eagle, humming bird, goose, falcon, crow.

FUR-BEARING ANIMALS

Mink	227
Chinchilla	6
TOTAL	233
GRAND TOTAL	1,490

Since 1952 a consistent annual increase in the numbers of tissues sectioned has been evident. During the past year the volume has increased substantially, as will be apparent from the following table:

TABLE II

TISSUES SECTIONED SINCE 1952

	1952	1953	1954	1955	1956
Domestic Animals	292	375	468	589	712
Fur-Bearing Animals	188	317	223	218	233
Poultry	92	151	359	303	463
Miscellaneous	28	18	15	35	82
TOTAL	600	861	1,065	1,145	1,490

Further tables showing the origin of tissues for the various species of livestock, and the common conditions encountered are appended.

Distemper of mink showed a further decrease over past years. Of 141 mink bladders examined microscopically in 1956, only 34 showed inclusion bodies which are diagnostic for the disease. These represent outbreaks on 9 different premises.

During the course of the year, 106 neoplasms were sectioned and examined. Of these 55, or approximately 51%, proved to be malignant.

An automatic tissue processing unit was acquired in August. This has eliminated a number of time-consuming stages which formerly had to be performed by hand, and has resulted in a more efficient system of producing routine tissue sections.

A scientific paper entitled "Lungworm Disease of Cattle in Alberta" was written and submitted for publication.

2. **Preparation of Material for Extension Purposes**

Photographic services are provided by this section as required by the personnel of the professional staff. Approximately 75 colour transparencies and 10 black-and-white slides were made and added to the series on diseases of poultry and domestic animals. In addition, 80 photographic prints were prepared for purposes of reference and to illustrate scientific papers.

For display and educational purposes in connection with the Rat Control Campaign, 10 rat specimens were preserved and mounted in plastic boxes.

Report of the Schools of Agriculture

J. E. HAWKER, Superintendent

J. E. Birdsall, Principal, Olds School of Agriculture
N. N. Bentley, Principal, Vermilion School of Agriculture
P. Jamieson, Principal, Fairview School of Agriculture

For the 1955-56 term graduation exercises were held at each of the three Schools on April 6th. On this occasion Diplomas of Graduation were presented as indicated.

	Olds	Vermilion	Fairview	
Diplomas in Home Economics	18	17	9	
Diplomas in Agriculture	71	45	15	
	89	62	24	= 175

The total of 175 graduates is 23 below that of the number graduating the previous year.

Rosmahel Master Farm Family—Viking

John Rozmahel graduated from the Vermilion School of Agriculture in 1916. Son, Laurie is attending Vermilion this year.

Arrangements made some years ago whereby students from the Vermilion and Fairview School Division make use of facilities and some staff at the Schools of Agriculture for shop and home economics classes are still in effect. Previously the period during which these arrangements pertained were in the fall before regular classes opened and again in the spring after the close of the regular term. Effective at Vermilion only in the fall of 1956 arrangements were concluded to extend part of the teaching exchange into the regular School of Agriculture term. Under present conditions this will allow greater use of the School of Agriculture facilities there and result in more convenient time-tabling for the School Division.

An arrangement was concluded with the Indian Affairs Branch of the Federal Department of Citizenship and Immigration for presenting an Agriculture and Home Economics course at Olds for young Indian boys and girls. Courses were offered from April 23rd to June 28th, 1956, and are commented on more fully in the report from the Olds School.

Arrangements were also completed with the Federal Department of Northern Affairs and Natural Resources whereby a course in the operation of heavy equipment was given to Eskimo and Indian Trainees from the far north at the Fairview School.

The annual staff conference was held October 18th and 19th at the Fairview School. Staff members from the three Schools met to discuss courses, review school policies and acquaint new staff with the nature of their work. Following the conference a refresher course was conducted at the Fairview School for instructors in welding.

J. E. Hawker was appointed as Superintendent of Schools of Agriculture effective May 1st, 1956. Mr. Peter Jamieson, formerly District Agriculturist at Lethbridge, was named to succeed Mr. Hawker as Principal of the Fairview School.

Board of Agricultural Education

The annual meeting of the Board was held in Edmonton, June 7th, 1956. Mr. R. M. Putnam, Deputy Minister, reported that the Agricultural Schools Act had been amended as of March 29th, 1956, to allow the Board to hold its regular annual meeting before the 30th of June in each year. Fulfilling a request from the previous meeting, the Superintendent presented a proposed plan of new courses for girls. The 'Vocational Pattern' course as submitted was recommended for adoption by the Board effective in the 1956 fall term. This is a one year program for girls replacing all previous girls' courses. While a major proportion of the time is still allocated to Home Economics, greater emphasis is placed on employment preparation through the provision of more class time in Typing and Bookkeeping looking to the period between graduation and the point at which most of the girls will become homemakers. The Superintendent reported on special efforts being made in the Peace River area to bring the Fairview School up to full enrollment.

On recommendation of the Board, all applicants must have Grade IX standing but consideration will be given to older students who cannot meet this requirement. For the Two Year Course in Agriculture, boys must have passed their 17th birthday by December 31st of the year in which they apply. For all other courses, the minimum age at the time of registration is 16 years.

The 1956-57 Term

Over the years, economic conditions on farms has been probably the major factor affecting enrollment at the Schools. During the past four years it is apparent that another major influence has been operative, namely, increased employment opportunities for young people. According to enrollment information received from institutions offering courses in Agriculture and Home Economists in different parts of Canada this trend seems fairly general.

Enrollment figures at the opening of the term on October 30th were as follows:

	Olds	Vermilion	Fairview	Total
Home Economics:				
First Year	25	21	10	56
*Second Year	13	5	3	21
Agriculture:				
First Year	41	29	20	90
Second Year	29	27	17	73
Two-in-One	34	13	4	51
Totals	142	95	54	291

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*The Two Year and Two-in-One Courses in Home Economics were discontinued as of October, 1956.

While total attendance for the three Schools is down 9% from last year, the Fairview School shows a 4% increase. The over-all decrease reflects a general situation prevailing in similar institutions outside the Province of Alberta.

Maintenance and Construction

Replacement of old water lines at Vermilion was completed. Twenty rooms in the boy's dormitory and twelve rooms at Olds were fitted with built-in bunk-beds, dressers and study tables. The gymnasium-auditoriums at both Schools were redecorated and additional lighting was installed at Olds. At Vermilion a beef cattle shed was constructed and a program of replacing and refitting electrical installations was started following recommendations made by a government electrical inspector. At Fairview a 1,000 gallon water storage tank was installed to insure water supply in case of an emergency. Drainage lines from the barns were improved and a four inch hot water main was replaced with a smaller copper line. The usual program of maintenance and repairs was carried out at all three Schools.

Summer Program

It is significant to note that there is an increasing number of government and other agencies connected with agriculture, teaching or youth training, making use of Schools of Agriculture facilities during the summer months. In the report of each school these periods are indicated. In addition the regular short courses of Farm Womens' Week and 4-H Club Programs were held at each school with a Farm Boys' and Girls' Fair Camp Week again conducted at Vermilion. An A.W.I. Girls' Club Conference convened at Fairview and at Olds and Vermilion this was followed by a short course for the same group. 4-H Club Elimination Contests were conducted again at Vermilion and Olds.

Appreciation

Over the years the Schools of Agriculture and Home Economics have enjoyed the very liberal support of a large number of commercial firms, organizations and individuals. The Department wishes to express its very sincere appreciation to all of these people for their very fine contributions. As the schools continue to bring a desirable impact on rural and community living over the province through their graduates, supporters of the schools and the Department may take satisfaction from their efforts.

From time to time officials of the University of Alberta and the Federal Government have contributed materially to the program at each of the Schools. Their assistance is gratefully acknowledged.

At each school, active Alumni Associations support the program of their alma mater by offering scholarships and in many years present various items for the use of future generations of students. This continuing interest is particularly appreciated by the Department.

The co-operation of the Principals and all staff personnel of the three Schools is acknowledged with sincere appreciation.

A special word of thanks is expressed to Mr. E. R. McCrimmon, Executive Assistant to the Deputy Minister, for his counsel when the incoming superintendent was assuming his new responsibilities.

OLDS SCHOOL OF AGRICULTURE AND HOME ECONOMICS

The calendar year 1956 will probably be recorded as the busiest on record at O.S.A. and in every way a very successful one. The regular winter courses were not marked by any serious difficulties but rather by student achievement both scholastically and in extra-curricular activities; the summer courses were well attended and met with an enthusiastic response from those who came; the number of visiting groups reached an all time high and the new courses for Indian students, while working no miracles, were a worthwhile venture in every respect.

Aerial view of Olds School

Little Royal and Achievement Day

The annual Little Royal and Achievement Day was held on March 29th. A preview of the dress review, with 400 local people attending was held on the evening of March 28th. The coverage of courses with displays was more complete than in past years and the quality of workmanship maintained a high standard. Attendance at the Little Royal and Achievement Day was about 850. Judge for the Little Royal was Mr. W. H. T. Mead, Livestock Commissioner, Alberta Department of Agriculture, Edmonton.

Graduation

The 1955-56 term closed on April 6th, 1956 with the presentation of eighteen diplomas in home economics and seventy-one in agriculture. Honourable L. C. Halmrast, Minister of Agriculture delivered the address to the graduating class. Donna Wallace, a second year home economics student, was class valedictorian. A Surplus Wheat Board University scholarship was awarded to Marilyn Cooper of Elnora who registered in home economics at the University of Alberta in September. Prizes for proficiency in various fields were awarded to graduating students.

Special Lectures and Visitors at Regular Courses

Special speakers included a number from the Department of Agriculture as well as Dr. A. G. McCalla, Dean of Agriculture, University of Alberta; a film and talk on plywood put on by a representative of MacMillan and Bloedel (Alberta) Limited; Mrs. M. Shaw, School for Nursing Aides, Calgary; Miss E. Clarke and Miss J. Stewart, National Employment Service, Calgary.

Courses for Indian Students

Through an arrangement between the Alberta Department of Agriculture and the Indian Affairs Branch of the Canada Department of Citizenship and Immigration courses for Indian students in agriculture and home economics, were given at the school. The courses were of about nine and a half weeks duration starting on April 23rd and finishing on June 28th, 1956. Fifty young women and seventy young men from reserves in Alberta and North-West Territories registered. The courses were specially designed to give basic training in farming and home-making. Community leadership was also stressed, particularly in the extra-curricular activities. Another aim of the courses was to make the students more employable.

The regular staff was supplemented in order to deal with the students in small groups. Extra staff included Mr. J. Harcus from the Vermilion School of Agriculture; Professor L. Shanks, retired from the University of Manitoba; Mr. W. Jellis, and Miss E. Tychsen, a physical education specialist from Denmark. In addition three recent School of Agriculture graduates, two from O.S.A. and one from F.S.A. gave assistance in laboratory work.

The Indian girls had a higher average education than the boys and so the home economics teachers were able to use regular teaching methods. In agriculture classes teaching had to be by visual means and student participation as much as possible. Repetition and great patience were required. Practically all students were very co-operative and anxious to learn. Discipline problems arose less frequently than in regular courses.

The Indian young people were well received in the town of Olds. An "Indian Day" with a special outdoor program organized and carried out by the students was held on a Wednesday afternoon. About 500 people attended and were very pleased with the program and the conduct of the students.

Closing exercises and an achievement day were held on June 28th. Work of the students and displays prepared by them were viewed by about 400 people including many parents and relatives. The dress review was a highlight.

The address on this occasion was given by Mr. J. G. MacGregor, Chairman, Alberta Power Commission. Certificates were presented to students by Mr. R. F. Battle, Regional Supervisor of Indian Agencies. A highlight of the closing was the distribution to students and staff of a school paper, "Smoke Signals". It was prepared by students and the cover was drawn by a student and printed by the Olds Chamber of Commerce as a good will gesture.

From the results obtained by students an eligible list was established for the regular course. Three Indian boys who took the course enrolled in the regular two year course in October. None of the girls returned but a number are taking other training, several having enrolled in the course at the School for Nursing Aides.

Summer Activities at the School

Immediately following school closing in April, a two day 4-H Club Leaders Conference was held with an attendance of 100. This was followed by a conference of District Home Economists and then a special course in Farm Accounting for District Home Economists and District Agriculturists. The total attendance at these courses was approximately 50.

Mid-summer activities began on July 9th and concluded on August 10th. These included Farm Womens' Week, W. I. Girls' Club Week, two 4-H Club Weeks, 4-H Club Competitions and the annual summer Alumni Reunion. Total attendance at these events was approximately 1,500 people.

Activities just prior to school opening included a C.G.I.T. Conference, a C.G.I.T. Leaders' Conference and a 4-H Leaders' Conference with a total attendance of 430.

The impact of oil development in the area west of Olds has been felt by the school. Two Mud Schools and one Pipe School were carried out during the year by the Petroleum Industry Traininf Service using school facilities. Total attendance of oil workers was about sixty.

During the year the number of people who came to the school as organized groups exceeded 6,000.

Summer Activities of Staff

In addition to the heavy schedule of teaching several staff members handled other work during the summer either at the school or in other branches of the Department. Mr. Holubowich was in charge of grounds; Mr. Belanger was in charge of Maintenance until he resigned at the end of June; Mr. Wilton took over the duties of Farm Manager on July 1st. Those employed in other Branches of the Department were:

Field Crops Branch—H. J. Armstrong

Extension Branch—H. Sutherland, Miss G. Daley
General Office—E. E. Rogers.

Grounds

The grounds were maintained in good condition throughout the growing season with weather favoring a good display of green lawns, and luxuriant bloom. An extensive program of improvement was carried out including pruning, thinning of old plantings, removal of large trees that were a hazard to power lines, filling with black earth to improve lawns and widening of entrances to the grounds. The orchard, except for recent plantings, was pulled out to make way for the planting of newer and better varieties. A number of apple seedlings are being tested for the Morden Experimental Farm.

Natural Gas Installation

During the summer a line to carry natural gas from the Nevis field to the towns of Penhold, Innisfail, Bowden, Olds, Carstairs, Crossfield and Airdrie was installed. The line ran across the school farm and a regulator station for the town of Olds was built on the school grounds. Gas was turned into the lines in the town at an official turning on ceremony on October 4th. By the end of the year the task of conversion to gas at the school had been almost completed.

Maintenance Program

The very full program of activities at the school made it difficult to carry out the planned summer maintenance program. A change in Maintenance Supervisors which took place on July 1st also slowed progress temporarily.

Twenty rooms in the boys' dormitory were fitted with built-in furniture, battleship linoleum and plywood panelling. Minor decorating jobs were carried out. A reorganization of the metals shop was planned and materials ordered. One upright silo was dismantled and replaced with a temporary bunker silo.

Facilities for fire protection were assessed, one new hydrant installed and another is on hand for installation when a portion of the water line is replaced. A very lengthy report by the electrical inspector listing necessary changes was submitted in 1953. His recommendations have been implemented in a systematic manner and only a few remain to be carried out.

The farm buildings layout was surveyed with a view to preparing a long term plan that would ultimately achieve greater convenience and labor saving as well as a less hazardous situation from the standpoint of fire. The survey will be extended to the school and residence area in 1957. Plans and scale models will be prepared for future reference.

Plots

The plot area produced a good supply of vegetables, seed grain for the farm and some Foundation Stock Creeping Red Fescue. Test plots of cereal and forage crops were grown in co-operation with the Lacombe Experimental Farm and a fungicide test in co-operation with the Field Crops Branch. Classroom material for field husbandry and botany classes was also produced.

Instructional and Administrative Staff for the Fall Term

J. E. Birdsall, M.Sc.—Principal, Farm Management.
Mrs. Frances Hodgson, B.A.—Dietitian.
Miss Mary Lockhart, B.Sc.—Dean of Women, School Nurse, Home Nursing.
E. E. Rogers—Dean of Men, Recreation.
S. B. Wilton, B.Sc.—Animal Husbandry, Farm Manager.
G. B. Harrison, B.Sc.—Farm Building, Maintenance Supervisor.
Miss Gwen Daley, B.Ed.—Clothing.
Miss Myrtle Wigmore, B.Sc—Foods, Employment Training.
Miss Joan Bannman—Home Management, Handicrafts.
Mrs. M. K. Stiles—English, Mathematics, Economics and Co-operation, and Community Organization.
Mrs. Dorine Sutherland—Typing.
H. W. Sutherland, B.Sc.—Field Husbandry, Entomology.
W. C. Kirk, B.Sc.—Farm Machinery, Farm Motors.
H. J. Armstrong—Metals.
E. P. Holubowich, B.Sc.—Horticulture, Botany, Mathematics.
W. D. Ratcliff, B.Sc.—Dairying, Poultry, Mathematics.
R. D. Macdonald, B.Sc.—Science.
G. A. Ogston—Farm Foreman, Assistant Instructor in Animal Husbandry.
C. Gogan—Bookkeeping Instructor.
M. J. Joosten—Accountant.
Mrs. Kathleen Chesney—Secretary.
Miss Mary Lee Jones—Stenographer.
Mrs. Betty Brown—Librarian.

The Farm

A fairly dry spring resulted in good progress with seeding but spotty germination. Rainfall throughout the growing season was adequate and unusually well distributed. A severe hail storm after harvest started threshed out part of the oat and barley crops in the swath on the south farm. Since rainfall was distributed throughout the growing season haying was difficult and so some of the hay was of poor quality. A fairly high hay yield was obtained and pastures were good throughout the season.

The following crop yields were obtained:

Crop	Acres	Yield
Oats	100	*5,737 bushels
Barley	124	*4,365 bushels
Green Feed	15	25 tons
Hay	100	100 tons
Ensilage	25	110 tons

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*Estimated hail damage in swath—25% to 30%.

New machinery purchased during the year included a Cockshutt forage harvester, an I.H. Harrow plow and a John Deere side delivery rake.

During the year a thorough culling program was carried out in both Holstein and Shorthorn herds to reduce the herds by getting rid of the poorer animals and those requiring frequent veterinary attention. The Shorthorn herd sire Killearn Norman 24th was disposed of and a replacement, Killearn Wel Fair 23rd, was purchased. With the Provincial Artificial Breeding Laboratory being discontinued, service for the Holstein herd was obtained from a newly formed breeding club which was organized with headquarters at Olds.

During the year, besides maintaining the Yorkshire swine herd, the school farm co-operated with the Canada Department of Agriculture by raising a few litters of the new "Lacombe" breed of swine.

The farm continued to supply the dormitory with milk and eggs. Feeder cattle purchased in the fall of 1955 plus cull cattle from the farm herds and pigs from the swine herd supplied meat for the spring term and the Indian Course. Additional feeders were purchased in the fall for the winter course. These animals were nearly all butchered in class by students under the direction of the livestock instructor.

The 1956 Fall Term

Registration by classes was as follows:

	Agriculture	Home Economics
1st Year	41	25
2nd Year	29	13*
Two-in-One	34	......*
	104	38

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*2nd Year offered for last time and Two-in-One course eliminated.

The term was highly satisfactory in every respect. Since registration in agriculture has been maintained at or near capacity over a period of years and since there has been some fluctuation, the lower registration can not be considered significant unless it continues over the next year or two.

Special Achievements of Students and Graduates

It is with pride that we record special achievements of students and graduates during the year. The most outstanding were those of Kenneth Ditzler of Joffre, Allan Pollock of Hubalta, and William Deurloo of Granum, all 1956 graduates. Kenneth won the Canadian National Exhibition Scholarship in the amount of $750.00. This scholarship is awarded to a 4-H Club member in each province who has shown qualities of leadership and is to be used for study in agriculture at a Canadian University. Allan Pollock was honored by being chosen the Alberta Nominee for the T. Eaton Agricultural Scholarship. He did not win the scholarship but it is an honor even to be nominated. William Deurloo won the Wheat King title at the Royal Winter Fair in Toronto. This win has a very sound background of 4-H achievement and hard work at this school behind it.

In addition to these achievements the school can be proud of its strong representation at National 4-H Club Week. Three 1956 graduates, Sybil Groom and June Avison of Ponoka along with Robert Church of Balzac were Alberta representatives. In addition four students who enrolled in the fall of 1956 were granted leave to go. They were Deanna McLellen of Donalda, Gerald Schuler of Hilda, Morley Buyer of Carbon and Walter Haustein of Erskine.

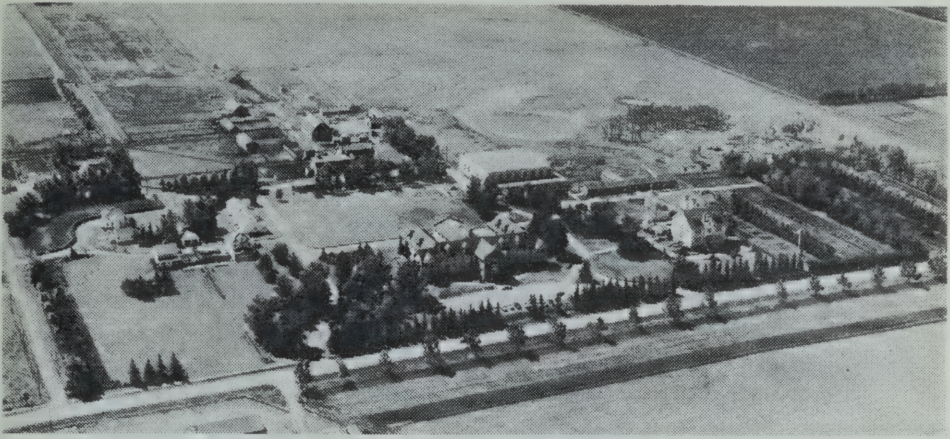
VERMILION SCHOOL OF AGRICULTURE AND HOME ECONOMICS

The 1955-56 Term

This term, which was characterized by a much smaller enrollment of students particularly in the First Year Courses, carried through the regular program of classroom and extra-curricular activities to a successful conclusion on April 5th. Illness of Mr. D. C. Folk from February 17th to end of the term required engagement of Mr. W. Jellis as a substitute for him and necessitated cancellation of the Operetta which had been the highlight of the spring term for a number of years.

Visitors and Special Speakers

Visitors who inspected the School and addressed the students during the term included a number of Department of Agriculture personnel as well as the following: Dr. Hu Harries, Economic Consultant, Edmonton; Dr. Bryan Russell, Health Unit, Vermilion; Mr. Wm. McCourtney, Canadian Club Speaker, Ottawa; Mr. Wm. S.



Aerial view of Vermilion School

Scarth, United Grain Growers', Edmonton; Dr. A. G. McCalla, Dean, Faculty of Agriculture, University of Alberta; Miss Margaret Stephens, Vermilion; Mr. T. E. McPherson, Manager, Canadian Bank of Commerce, Vermilion; Miss Gwen McLean, Canadian Utilities, Edmonton.

Special Events

In addition to the regular program of extra-curricular activities organized under the Students' Council the following events are especially noteworthy:

February 6th—Demonstration and Instruction in Watersafety and Life Saving by officials of the Red Cross, Edmonton.
February 18th—Second Annual Parents' Weekend.
March 2nd—V.S.A. Alumni Re-Union.
March 10th—Gym Night.
March 17th—District Basketball Tourney in which V.S.A. Boys' and Girls' Teams won the Championships.
March 24th—Second Annual Colour Night.
March 28th—The Little Royal and Achievement Day.
April 5th—Graduation Exercises.

The continued interest and support by the public of all open functions at the School afforded considerable satisfaction to the staff. Large numbers of former students attend Alumni events. The "Little Royal" and Achievement Day attracted approximately 800 persons including a number of High School and 4-H Club groups. Dr. Roy Berg, from the University of Alberta, and Mr. Robert Cooper of the Provincial Department of Agriculture, were the guest judges of the livestock showmanship classes.

Graduation

At the Closing Exercises held on April 5th, Senior Major Wm. F. Ross of the Salvation Army in Edmonton delivered the principal address. Mr. R. M. Putnam, Deputy Minister, represented the Department of Agriculture and Mr. James Smith, M.P., assisted with the presentation of awards. Miss Marjorie Goodwin, Vermilion, was guest soloist.

Diplomas of graduation were awarded as follows:

	Agriculture	Home Economics
Two year course	28	8
Two-in-One course	17	9
	45	17

Winners of **Scholarships** for distinction in various fields were:

Home Economics:

V.S.A. Alumni—Joyce Featherstone, Langford Park
Alberta Womens' Institutes—Vivian Fujczak, Bluffton
Robert Gardiner Memorial—Edna Nent, Provost

Agriculture:

Vermilion Board of Trade—Victor Marchak, Edmonton
V.S.A. Alumni—Rudolph Hauch, Freedom
Line Elevators' Farm Service—Larry Bright, Hillmond
Craig Brothers—Ekhard Tiller, Lunnford
Imperial Oil—Roger Harvey, Edmonton
Alberta Turkey Breeders—Henry Hofs, Gibbons

There were no applications for the Alberta Wheat Board Surplus Money Trust Scholarship tenable at the University of Alberta.

Staff Medals were awarded to:

Victoria Lopushanski, Star
Hazel Barr, Vermilion
Edward Peck, Lake Isle

The Summer Program

In addition to the series of Short Courses held in July numerous organizations employed facilities of the School for meetings, conventions, Field Days, etc. Chief events were as follows:

June 2nd—Mrs. Berry's address jointly sponsored by the F.W.U.A. and A.W.I.
June 14th—F.W.U.A. District Convention
June 15th—Achievement Day for High School Shop and Home Economics Classes
June 16th—Womens' Institutes Constituency Convention
July 4th—F.U.A. District Convention
July 6th—V.S.A. Alumni Summer Re-Union
July 9th-12th—Farm Womens' Week
July 15th-21st—4-H Club Week
July 23rd-28th—Boys' & Girls' Fair Camp and Short Course
July 30th—4-H Club Rally and Field Day
October 11th-12th—Joint Teachers' Convention

Employment of the Staff During the Summer

In addition to the responsibilities associated with the summer program and other events described above, members of the teaching staff engaged in various other activities connected with the School or other Branches of the Department.

The arrangement begun in 1953 whereby the services of four Instructors and the use of four classrooms were leased to the Vermilion School Division for instruction in Shop Work and Home Economics was continued. So employed were Mr. J. A. R. Palin, Mr. D. C. Folk, Mrs. S. C. Acheson and Miss Margaret Wright.

A similar arrangement with the Town of Vermilion was made for the services of Mr. S. C. Moore as Recreation Director for the summer months.

Miss Audrey Stewart and Mr. J. F. Harcus were employed by the Extension Services Branch.

Mr. V. T. Janssen, Mr. Wm. Baranyk and Mr. W. B. Olson remained at the School discharging duties connected with the School farm, grounds and maintenance respectively.

Maintenance

A normal program of maintenance and repair was conducted through the summer months with most of the work being done by the regular maintenance staff. Major projects included:

Refitting of Bake Room in the Dormitory Kitchen and the installation of new ovens.
Replacement of main water lines in the farm yard and to the Mechanics and Q.M.S. Buildings.
Installation of approximately 600 yards of concrete curbing.
Construction of a beef and cattle shed.
Refitting of 12 student rooms with built-in bunks, study tables and dressers.
A major program of refitting and replacement of electrical installations is in progress.

A principle item requiring immediate attention is the problem of replacing or repairing the Dairy Barn and associated with it is that of using the Horse Barn to better advantage. Some basic planning in this regard has been done.

School Grounds, Gardens and Field Crop Plots

The School grounds with spacious lawns and groupings of trees, shrubs and flowers continue to attract much favourable interest and comment. The roadside plantings along Highway 16 and 41 and on the west side of the Fair Grounds have made excellent growth. Their arrangement presents an excellent demonstration for the guidance of the general public.

Excellent yields of good quality vegetables were produced for use in the School Dormitory and a considerable surplus is available for market. The demonstration orchard planted in 1950 has made moderately good progress with some trees producing good yields of fruit in 1956.

Field Crops demonstrations continue to attract numerous casual visitors interested in seeing the comparative plots of different kinds and varieties of cereal and forage crops.

Mr. Wm. Baranyk continues in charge of this work.

The School Farm

Good crops of cereal grains and fair stands of hay and pasture crops were established on the farm land which was used as follows:

	Acres	Yield
Oats	61	5,155 bushels
Barley	31	1,682 bushels
Hay	87	135 tons
Greenfeed	52	36 tons
Fallow	47	....
Pasture	101	....
Breaking (Sod)	52	....
	431	

The regular livestock program continued except for the addition of a project in co-operation with the Dominion Experimental Farm Service whereby four brood sows of the Lacombe breed together with their progeny were maintained to marketing age.

Livestock inventories, excepting the Lacombe pigs, were as follows:

Kind	No. on Hand March 31st, 1956
Dairy Cows	21
Heifers and Calves	16
Dairy Bull	1
Stocker Cattle	12
Brood Sows	7
Boars	1
Feeder Pigs	53
Rams	1
Ewes	60
Lambs	65
Horses	3
Laying Hens	304
Chicks	209

Campus and Dormitory Sales:	
Sale of Milk and Cream	$ 4,197.19
Sale of Eggs	771.53
Sale of Meat	1,971.96
	$ 6,940.68
Total Farm Sales	$17,172.24

Fifteen acres of wooded land on the north side of Highway 16 was cleared in preparation for breaking in 1957.

The farm continued under supervision of Mr. V. T. Janssen with Mr. Wm. Russell as Foreman.

The 1956-57 Term

Classes were enrolled on October 30th as follows:

	Agriculture	Home Economics
First Year	29	21
Second Year	27	6
"Two-in-One"	11	*
	67	27

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*The Two-in-One and Two Year Courses for girls were replaced by a One Year Course October, 1956.

Of this number one Second Year girl and one girl in the One Year Course had withdrawn for personal reasons by the end of the fall term.

This enrollment represents the most significant reduction in numbers experienced in the past ten years. Competition by employment opportunities in industry and in construction projects undoubtedly affected the registration of farm boys and represents a trend experienced elsewhere. The new One-Year Course for girls apparently attracted some students but did not produce results needed to fill classes to capacity. A general review of this situation indicates a demand by farm girls for specific employment training or for qualifications leading to enrollment in other training schools.

The School has enjoyed fine support from numerous business firms and organizations who have donated a very generous quantity of material and equipment for teaching and demonstration purposes without which our work, particularly in Farm Mechanics and Home Management, would be considerably handicapped.

A full program of extra-curricular activities was organized under the Students' Council with James Hook as President and Joyce Featherstone as Vice-President.

Special events of the fall term included:

November 10th—V.S.A. Parade in the Town of Vermilion
November 12th—Election of Students' Council

November 18th—Visit by party of 48 students to R.C.A.F. Station, Cold Lake
November 23rd—V.S.A. Alumni Re-union
December 7th—Dramatics Program

Instruction and Administration Staff 1956-57 Term

N. N. Bentley, B.A., B.Sc.—Principal, Instructor in Farm Management.
V. T. Janssen, B.Sc.—Farm Manager, Instructor in Animal Husbandry.
J. F. Harcus, B.Sc., B.Ed.—Dean of Men's Residence, Instructor in Poultry and Dairying.
Miss Agnes McLaughlin, R.N.—Dean of Women's Residence, School Nurse.
J. A. R. Palin, B.Sc.—Instrucor in Farm Mechanics.
K. M. Stone, B.Sc.—Instructor in Field Husbandry.
Wm. Baranyk, B.Sc.—Instructor in Horticulture and Botany.
D. C. Folk—Instructor in Farm Building.
E. Boyko—Instructor in English.
W. B. Olson—Maintenance Foreman, Instructor in Metalwork.
Miss Margaret Wright, B.H.E.—Instructress in Home Management.
Miss Elsie Scherban, B.Sc.—Instructress in Foods.
Mrs. Martha McQueen-Smith—Instructress in Clothing.
L. Seath, B.Sc.—Instructor in Science.
Sidney C. Moore—Supervisor of Recreation.
Miss Audrey Stewart—Dietitian, Instructress in Typing.
Mrs. K. I. Bell—Secretary.
H. Cooper—Accountant.
Mitchell Taylor—Instructor in Bookkeeping (Part-time).

FAIRVIEW SCHOOL OF AGRICULTURE AND HOME ECONOMICS

General

The term which closed April 6th, 1956, was successful with staff and students co-operating to produce a good year. A severe winter tested facilities severely and found them adequate. In March, the town water supply became exhausted attributable indirectly to the severe weather. Emergency measures taken by the school maintenance staff under the direction of W. R. Knight met the crisis successfully. Changes made in the town water system in the summer of 1956 will prevent a recurrence of this situation.

Aerial view of Fairview School

Little Royal and Achievement Day

The annual Little Royal and Achievement Day was held on March 29th and was attended by 800 visitors. The spacious mechanics building was the scene of the livestock judging. Students were judged on their showmanship by Mr. J. L. Kerns, District Agriculturist of Ponoka. All classrooms and exhibits of work were on view to the visitors who were accommodated by both staff and students. Many parents expressed enthusiasm with the work displayed.

Graduation

At the Closing Exercises held on April 6th, 1956, the program was introduced by a fashion show in which Home Economics students modelled clothing made during the term. This was followed by the Graduation Exercises in the gymnasium. Rt. Rev. Bishop R. J. Pierce, Bishop of Athabasca, addressed the graduants. Mr. E. B. Swindlehurst, Supervisor of Radio and Information and Research Extension Editor represented the Department.

Diplomas of graduation were awarded as follows:

	Agriculture	Home Economics
Two Year Course	7	8
Two-in-One Course	8	1

The following students were named winners of scholarships for distinction in various phases of school work:

W. P. Loggie—Max Wiese, Linaria, Alberta
Margaret Stuffco, Harmon Valley, Alberta
North-West line Elevator—Jerome Kramps, Crooked Creek, Alberta
Imperial Oil Company—Gerald Charles, Fort Vermilion, Alberta
Alberta Womens' Institute—Betty Davis, Kinuso, Alberta
Robert Gardiner Memorial—Gerald Oe, Bezanson, Alberta
Val Newton Memorial—Gene Clark, Farquier, B.C.
F.A.S. Alumni—Anne Chaudy, Grande Prairie, Alberta
Alberta Hatching Egg Producers—Gordon Swift, Telka, B.C.
Alberta Wheat Board Monies Trust—Anne Lichtner, North Star, Alberta
Winners of staff pins:
Keith Moran, Fairview, Alberta
Bill Bulmer, Berwyn, Alberta
Anne Lichtner, North Star, Alberta

Splendid support is given to the students for outstanding work in various courses by the business men of Fairview and outside organizations. Prizes to the value of $300.00 were distributed apart from the above scholarships.

Visitors and Special Speakers

During the year a number of special speakers and visitors were welcomed to the School. These included a number of Department of Agriculture personnel as well as the following: W. D. Evans, Canada Department of Agriculture, Edmonton; E. C. Stacey, Superintendent, Beaverlodge Experimental Farm; C. E. Tuper, Supervisor of Apprenticeship Training, Department of Trade and Industry; R. E. Byron, Director of Vocational Education, Department of Education; T. H. Taylor, Vocational Co-ordinator, Fort Smith, N.W.T.; Inspector S. M. McNeil, R.C.M.P., Peace River;

Constable G. Straton, R.C.M.P., Fairview; Prof. C. S. Hampson, Science Division, University of Alberta; Mrs. T. H. Howes, President, Alberta Women's Institutes, Millet; Mrs. D. S. Hayden, High Prairie; Rev. Beverley Johnston, Grande Prairie.

Calendar of School Events

Extra-curricular activities play a large part in developing leadership in students and help in the adjustments young people have to make in facing the world after leaving home. Some of the highlights of the year were:

October 22nd—Field Day and Initiation Dance
October 28th—Student Election
November 4th—Fall Open Dance "Harvest Ball"
November 26th—First Literary Program
December 2nd—Frontier Night
January 7th—Beaverlodge Drum Majorettes
February 4th—Second Literary Program
February 18th—Valentine Dance
February 22nd—C.K.Y.L. Student of the Week Broadcast
February 25th—Play Night
March 2nd—Spring Open Dance
March 10th—Gym Night

Under staff supervision the Students' Council organized and carried out a comprehensive program of sports, social events and literary projects. The school year book, "The Aurora" was again a successful project produced by a large committee supervised by H. F. Irwin, Instructor in English.

Summer Program

February 3rd—First Annual Parents Day
February 28th & 29th—Peace River Agricultural Co-ordinating Committee Conference
March 10th—4-H Club Judging Competitions
April 10th & 14th—Farmers' Welding Course
April 16th—Start of High School Classes in Home Economics and Shop.
June 18th—Start of Eskimo and Indian D.E.W. Line Operators Course.
June 30th—Annual Alumni Re-Union
July 3rd to 6th—Farm Women's Week
July 5th—Poultry Field Day
July 5th—Third Annual W.I. Girls' Club Convention
July 6th & 7th—Womens' Institute District Conference
July 9th to 14th—4-H Club Week
August 13th—4-H Club Rally
August 20th to 25th—Department of Industries Apprentice Welding Tests
September 5th—Resume High School Classes in Home Economics and Shop
October 6th to 8th—Anglican Youth Rally
October 11th to 12th—North Peace Teachers Convention
October 18th & 19th—Schools of Agriculture Staff Conference
October 22nd to 26th—Welding Refresher Course for School Instructors
October 29th to December 7th—Welding School for Welding Apprentices

Employment of Staff During the Summer

During the periods April 16th to June 29th and from September 5th to October 15th high school shop options were taught to boys from the Fairview School Division by V. W. Osbaldeston assisted by F. H. Klappstein and in the fall period by H. F. Irwin. During the same periods girls of the Fairview School Division were taught Home Economics options by Miss Joyce Regehr and Mrs. Dorothy Lien. In all 406 students were enrolled.

B. J. Godwin, Instructor in Horticulture and Botany, continued in charge of grounds, gardens and field crop plots and assisted with programs throughout the area where special training and experience in Horticulture were required.

The following teaching staff transferred to other Branches of the Departmenta for all or part of the summer months:

Extension Service—J. T. Lancaster
Field Crops Branch—H. F. Irwin
Dairy & Poultry Branch—J. H. Warne

G. A. Ogston, Farm Foreman, transferred to Olds in April and was replaced in June by Neil Macdonald, Fairview.

Maintenance

General repair work was carried on throughout the buildings and a number of projects were undertaken. All construction was done by members of the regular maintenance staff under the direction of W. R. Knight. A 1,000-gallon water storage tank was installed with a gravity system to supply the school during any water emergency. It was necessary to replace the 4-inch water line from boiler room to dormitory with 2-inch copper pipe. The discarded pipe was used to build a guard rail between the packing lot and buildings. A complete lavatory was built and equipped for maintenance staff. A gas and oil storage shed was constructed as a precaution against fire. One staff house was remodelled as a duplex. Further cement work was done on curbs on the grounds and some additional work done on the road gravelling program.

Grounds

More work was done toward completing the landscape plans for the school grounds. An area was seeded to grass and landscaped for a permanent F.S.A. playground. The general appearance of the grounds, attractive displays of flowers and demonstration material in field crop plots attracted a considerable number of visitors and provided useful material for field days, short courses and classroom study material. A 3-acre plot was set aside for a demonstration woodlot planting and 2,500 young trees planted. They appear to be doing well.

Farm Report

Pasture and hay crops developed very slowly in the early part of the season due to the very dry spring following the dry fall of 1955. Cattle did not go to pasture until almost the first of June. Late June and July rains brought a great improvement in the situation but practically no hay was produced. Pastures also were slow to recuperate and dry feeding was begun again in early September. About 150 tons of hay was purchased during the year and all feed grains were purchased from local farmers.

The last field in the rotation was seeded down about July 1st to a brome, fescue, alfalfa mixture and a good first year stand was obtained. A field broken up in 1955 was seeded to oats about the same time and about 50 tons of silage and 15 tons of greenfeed were produced. The bunker type silo built in 1955 was increased in size to accommodate the extra silage. No breaking was done in 1956 due to the heavy pasture requirement.

The Aberdeen Angus herd as usual did very well. The 14 cows in the herd all produced calves in 1956. Demand for bulls was quite good. Six yearlings were sold to farmers in the area, most of these sold through the cattle improvement policy. No females were sold.

The number of milking cows in the dairy herd is on the increase. Milk production for December 1956 was almost twice as high as for the same month in 1955 and the third highest for any month since operations began in 1951. Six heifers freshened in the latter part of the year and several more are due to freshen shortly. Most of these show promise as producers. The old herd sire was replaced by a young bull from the herd of Charles Cox of Calgary. A few cows have been bred artificially in the past two years but transportation and storage problems make this method rather unsatisfactory for the present.

Fifty-eight pigs were raised from six litters farrowed. Eighteen head were slaughtered for the dormitory kitchen and most of the rest shipped for slaughter. Nine boars and three gilts were sold for breeding during the year. Two new gilts and a new herd boar were obtained in the fall through the Livestock Branch. Three litters were entered for Advanced Registry but due to overcrowding at the test station, only one was actually tested.

Three hundred pullet chicks were obtained from the Provincial Poultry Plant about April 1st. In the fall the laying flock was replaced by the 275 pullets raised rather than by the purchase of ready to lay birds as in past years. The old birds were disposed of through the dormitory.

Total farm sales were $9,570.00 approximately the same as in 1955. The entire milk supply used in the dormitory kitchen was supplied from the school dairy herd. A considerable quantity of milk was also sold to the local dairy when the dormitory was closed or when there was a surplus over school needs. All eggs required by the dormitory kitchen are supplied by the farm as well as a large proportion of the pork, beef and poultry meat.

Eighty rods of new field fence were built. Grading and levelling for farm corrals were continued and 600 feet of plank corral was built.

The 1956-57 Term

The sixth term opened on October 30th and registration showed a slight increase over 1955 with 13 girls and 41 boys making a total of 54. The new one-year course for girls went into effect with classes in Home Economics. One student from California was welcomed into the Two-in-One Class.

Student registration took place on October 30th. Enrollment by classes was as follows:

	Agriculture	Home Economics	Total
First Year	20	10	30
Second Year	17	3	20
Two-in-One	4	Not Offered	4
	41	13	54

Instructional and administrative staff was as follows:

Peter Jamieson—Principal, Instructor in Community Organization.
D. R. Macpherson, Farm Manager, Instructor in Animal Husbandry.
J. H. Warne—Dean of Men, Instructor in Dairying and Poultry.
B. J. Godwin—Instructor in Horticulture and Botany.
J. T. Lancaster—Instructor in Field Husbandry and Farm Management.
V. W. Osbaldeston—Instructor in Farm Motors and Farm Machinery.
H. F. Irwin—Instructor in English, Mathematics, Entomology and Bookkeeping and Co-operation.
D. C. Lien—Instructor in Science.
D. J. McBride—Instructor in Bookkeeping.
W. R. Knight—Maintenance and Instructor in Farm Buildings.
F. H. Klappstein—Instructor in Metalwork and Utility Man.
Miss T. Graham—Dean of Women, Dietitian and Instructress in Employment Training.
Miss J. D. Regehr—Instructress in Cooking and Home Management, Interior Decoration.
Mrs. D. R. Lien—Instructress in Sewing, Home Management and Interior Decoration.
Miss F. Falkous—School Nurse, Instructress in Home Nursing and Handicrafts.
Miss D. M. Hoel—Secretary and Instructress in Typing.
Mrs. W. Bartlett—Librarian.
R. O. Knight—Accountant.

Report of the 4-H Clubs

C. L. USHER, Supervisor, 4-H Clubs

Priscilla A. Mewha, Assistant Supervisor, 4-H Clubs
R. H. Cooper, Assistant Supervisor, 4-H Clubs
Dorothy Olsen, Junior Supervisor, 4-H Clubs
D. Stelfox, Regional Supervisor, 4-H Clubs

Staff

G. S. Black, Supervisor 4-H Clubs, passed away January 14th. This news was received with deep regret by his thousands of friends throughout this province and the whole of Canada. Mr. Black began his Junior Activities work with the Department in 1929 and, except for a period of war service, followed it continously, in varying degree, until his death this year. Much of the 4-H program presently being carried out in this province was developed under Mr. Black. C. L. Usher succeeded Mr. Black as Supervisor on February 15th.

In other staff changes R. H. Cooper became Assistant Supervisor, 4-H Clubs, May 1st and D. Stelfox returned from leave of absence to assume the duties of Regional Supervisor, 4-H Clubs on September 1st. Miss Olsen transferred from 4-H work to the staff of the Fairview School of Agriculture. Miss Ruth Whaley from the Vermilion School of Agriculture assisted with 4-H work from May until mid August and E. Rogers of the Olds School of Agriculture joined the 4-H staff for the Club Week period. Much assistance through the year was also given by numerous members of the staff of the Department. This was much appreciated and is gratefully acknowledged.

Club Membership and Distribution

There was a notable drop in 4-H club membership in 1956. This was in no way due to a lagging interest among farm young people in the program, but rather was brought about by such factors as transfers and resignations in field staff, additional work being assumed by the field staff and the difficulty in disposing of grain.

4-H CLUB DISTRIBUTION IN ALBERTA—1955-1956

	1956		1955	
Project	No. of Clubs	Members	No. of Clubs	Members
Beef Feeding	154	2,654	152	2,681
Dairy	32	504	28	481
Poultry	4	65	6	79
Sheep	2	41	3	64
Swine	8	115	6	92
Wheat	60	914	80	1,245
Oats	32	490	40	637
Barley	35	568	31	490
Potato	5	79	4	50
TOTAL	332	5,431	353	5,855
Decrease (Farm Projects)			21 Clubs,	424 Members
Clothing	86	1,106	95	1,321
Gardening	65	623	69	793
Foods	16	170	27	338
Home Decorating	0	0	2	25
TOTAL	167	1,899	193	2,477
Decrease (Home Projects)			26 Clubs,	578 Members
Total (All Projects)			499 Clubs,	7,330 Members
Decrease (All Projects)			47 Clubs,	1,002 Members

Leaders' Courses

In an effort to make the clubs less dependent upon District Agriculturists and District Home Economists, emphasis was again placed on leadership training. Three Provincial Leaders' Courses were held during the year—one in April at Olds School of Agriculture for grain, poultry, swine and garden clubs leaders, and two in October, on each at Olds School of Agriculture and Vermilion School of Agriculture for beef, dairy, clothing and foods club leaders. 73 leaders attended the spring course and 125 attended the two fall courses.

ALBERTA 4-H CLUBS
LEARN TO DO BY DOING

4-H leaders discussing club work in workshop groups at the Olds School of Agriculture

Regional One Day Leaders' Courses were held at Medicine Hat, Brooks, Sangudo and Rocky Mountain House. These proved useful for dealing with local club problems and co-ordinating the activities of clubs in the areas. At all courses, project work and program planning were stressed.

4-H Club Weeks

Four Club Weeks were held during July—one each at Fairview School of Agriculture and Vermilion School of Agriculture and two at Olds School of Agriculture. These were attended by a total of 450 efficiency winners plus 65 additional farm boys and girls at Fairview School of Agriculture. A delegation of four club members from Manitoba attended one of the weeks at Olds, and a number of 4-H members from the B.C. block of the Peace River country attended the week at Fairview. 21 scholarships from the Wheat Board Surplus Monies Trust Fund, each to the value of $75.00, were awarded at these Weeks as follows:

Fairview:		
Girls Section		Joyce Lorencz, Manning
Boys Section	1.	Raymond Anderson, Grimshaw
	2.	Linus Becker, Manning
Vermilion:		
Girls Section	1.	Marlene Guiochet, Ardmore
	2.	Jean Rush, Peers
Boys Section	1.	Johnny Kampjes, Gibbons
	2.	David Pawley, Inland
	3.	Victor Sawchuk, R.R. 3, Mundare
	4.	Joseph Corbier, Mallaig
Olds (First Week):		
Girls Section	1.	Marlene Stenvig, Eckville
	2.	Beverly Tronnes, Crossfield
Boys Section	1.	Steve Hadnagy, Bow Island
	2.	LeRoy Pelletier, Box 60, Pincher Creek
	3.	Ralph Tiede, Strathmore
	4.	Norman Neufeld, Granum
Olds (Second Week):		
Girls Section	1.	Mary Jorgensen, Carnwood
	2.	Kathleen Lane, Byemoor
Boys Section	1.	Allan Sorenson, Wetaskiwin
	2.	Vernon H. Michael, Clive
	3.	Arnold Malone, Rosalind
	4.	Henry Wildeboer, Rocky Mountain House

Alberta-Montana Exchange

For the 10th consecutive year, a 4-H exchange was carried on with the State of Montana. The Alberta delegation to the Montana State Club Congress held in August at Bozeman was as follows:

Rosalie Kelly, Berwyn
Annie Luszezewski, St. Albert
Harvey Beacome, Mossleigh
Augustine Dubyk, Mundare

These young people were accompanied by Miss Priscilla Mewha and L. D. Williams, District Agriculturist, Camrose. In return a group of 4 members from Montana and the Assistant State Club Leader, Mr. C. W. Vaughn, were guests of the Calgary Exhibition Board for the final day of the Stampede and then attended and took part in the Club Week program at Vermilion. This Exchange has provided a wonderful opportunity for the interchange of ideas.

Provincial Elimination Competitions

This year, for the first time since the formation of the Canadian Council of 4-H Clubs, competitions were not held at a National level. Because of this, selection of members for National Club Week was conducted on a new basis. 50% was based on club record and 50% on ability to judge and demonstrate project work, give oral reasons and answer oral questions. From a total of 180 attending Elimination Competitions at Olds School of Agriculture in August, 14 members were selected. Two were chosen from each of the six major projects; food, clothing, garden, beef, grain and dairy and the remaining two from four lesser projects; sheep, swine, poultry and potato. The practice initiated last year of selecting the best two representatives from each project rather than two from the same club was again followed this year. The winners were:

Grain —Robert Church, Balzac
Gerald Schuler, Hilda
Beef —Morley Buyer, Carbon
Harry Pedersen, St. Albert
Dairy —June Avison, Ponoka
Marion Craig, Olds

Sheep,
Swine,
Poultry, —Walter Houstein, Erskine
Potato Alfred Zurfluh, Erskine
Clothing—Shirley Ditzler, Joffre
Anna Sebza, St. Albert
Garden —Sybil Groom, Ponoka
Deanne McLellan, Donalda
Food —Myrna Roose, Ohaton
Natalka Semotiuk, Newbrook

Those members placing third and fourth in the Provincial Eliminations will receive a free trip to Club Week the following summer. These are as follows:

Grain —Harvey Beacome, Mossleigh
Augustine Dubyk, Mundare
Beef —Keith Langille, Rosalind
Gordon Henderson, Forestburg
Dairy —Larry Notley, Olds
Lorna Koetke, Holden
Sheep,
Swine,
Poultry, —Dorothy Hebson, Okotoks
Potato Gordin Rees, Ponoka
Clothing—Mona Bulmer, Berwyn
Anne Luszczewski, St. Albert
Garden —Joan Butterwick, Brownfield
Sharon Raymond, Evarts
Food —Nova Buyer, Carbon
Eva Rattel, Ohaton

National Club Week

The delegation of six boys and eight girls were this year accompanied by C. L. Usher and Miss Marion Inglis, District Home Economist, Vegreville. All delegates represented Alberta 4-H Clubs exceptionally well throughout the 10-day trip to National Club Week. The elimination of National competitions allowed more time for the inter-provincial exchange of ideas, tours to places of national interest, talks by well-known Canadians and discussion groups among the members. One of the Alberta delegates, Harry V. Pedersen, was elected secretary of the Junior 4-H Club Council in Toronto. This is considered a very high honour.

Royal Winter Fair

Alberta 4-H Club members again came very much to the fore in exhibiting of seed grain at the Royal Winter Fair in Toronto and the International Hay and Grain Show in Chicago. In Toronto, Alberta 4-H'ers, William Deurloo of Granum, captured the World Wheat crown, while Viola Howard of Munson took the Reserve World Wheat Championship. Alberta club members also took 21 out of the first 25 placings in the 4-H wheat class, 7 out of first 10 placings in the 4-H oat class, and the top 4 placings in the 4-H barley class. A 4-H leader and former 4-H member, John Boulton of Abee, took the World Oat Championship.

In Chicago, Jerry Leiske of Carbon, won the International Wheat Championship. 23 other Alberta 4-H members also placed well with their grain at this Show.

Scholarship Awards

Eaton Agricultural Scholarship

Alberta's representative to the National Competition for the Eaton Agricultural Scholarship was Allan Pollach of Hubalta. Allan has a long and outstanding record in 4-H work.

Canadian National Exhibition Scholarship

This scholarship was offered for the first time this year. It provides for $750.00 payable toward a university degree course in Agriculture, Home Economics or Veterinary Science for 4-H boy or girl. Ken Ditzler of Clive, an outstanding 4-H member was this year's winner for Alberta. Ken began his Agricultural Course at the University of Alberta this fall.

Camps, Rallies and Tours

These events continue to expand and are becoming an important phase of 4-H club work. Most clubs now include tours and rallies in their program.

Successful lake camps were held at Elkwater and Buffalo Lake, while Fair Camps were held at Camrose, Vegreville and Vermilion. The Lethbridge area had a four-day Camp at the Exhibition Grounds and the Edmonton Exhibition had a one-day rally and five-day camp in conjunction with the Summer Fair.

Winter rallies involving a number of clubs were held in some districts. These had programs that were educational and social in nature.

Summer rallies at the Schools of Agriculture, Experimental Farms, and other suitable places were numerous and popular. These usually included conducted tours of the institutions visited.

Thematic Displays and Floats

The building of educational displays depicting 4-H work, good homemaking and farming continued to be a popular activity of many clubs. These were to be seen on display at Achievement Days, exhibitions and fairs.

Entries in the Provincial Competition were on display and were judged at the Calgary and Edmonton Exhibitions. The winners, Cochrane 4-H Beef Club and Mecca Glen 4-H Garden Club placed third and fourth respectively in the Inter-Provincial Competition at Regina.

Radio and Press

News of 4-H Club activities was keenly sought and used by radio stations and the daily and weekly press throughout the province. A limited amount of 4-H publicity was also carried by television.

A popular program for club members now is a special 4-H club broadcast produced by the C.B.C. each Saturday morning. Besides this ,the Department's "Call of the Land" program has been most useful in carrying special 4-H features.

4-H Club News

This is a special 4-H club bulletin produced by the Branch and forwarded to all club members. This bulletin deals with the activities of the clubs and the Schools of Agriculture. It is a good medium by which to pass along much valuable information to all clubs.

Assistance of Organizations

The Alberta Wheat Pool, the United Grain Growers and the Line Elevators Farm Service continued to sponsor the grain, forage and garden projects on a provincial basis as they have done since these projects were started in this province. Their assistance in helping defray the cost of seed grain, garden seeds, transportation, room and board of club members from these projects to Club Week and of leaders to Leadership Courses amounted to $7,442.31 this past year. Other assistance included the help of their field staff on numerous occasions and a number of prize awards for various club achievements.

Further, substantial assistance to the club program was given by the various livestock associations, service clubs, boards of trade, agricultural societies, Exhibitions, and a large number of other interested organizations and individuals.

The number of organizations offering assistance to the 4-H program continues to grow.

AGRICULTURAL PROJECTS

Beef Calf Clubs

The beef calf feeding clubs continued as the strongest project, there being a slight increase in numbers over the previous year. For the first time, the new second year Project Book was distributed to provide further study material for the second and third year members.

To culminate the project year, many large combined Achievement Days and Sales were held throughout June and July. These proved to be the outstanding agricultural events in many districts. Support of the Sales by packer buyers, local merchants and individuals was very good.

Dairy Calf Clubs

An increase in dairy clubs is encouraging to note. This project carries very little glamour so those joining are doing so to take advantage of the opportunities to learn and to establish a small herd. Calves were again supplied from the Edmonton Milk Shed under the Dairy Heifer Calf Policy. The work involved in this policy was ably handled by the Livestock Branch. 255 animals at a cost of $32.50 each were sent out to club members through this policy and were well received.

Seventeen members representing all dairy clubs north of Red Deer were guests of the Alberta Dairymen's Association at their annual convention in Edmonton. This award trip given to outstanding members is much coveted.

The Provincial 4-H Dairy Show was held in conjunction with the Red Deer Fair. This Show attracted entries from 21 clubs for a total of 21 calves and 13 yearlings. The top award in the calf class went to Joanne Tremmel of Stettler and the top award in the yearling class to Emil Schiller of Bruderheim. The co-operation and assistance received from the Alberta Dairymen's Association and the Red Deer Fair Board did much to make this an outstanding 4-H event.

Swine Clubs

Only a limited number of areas appear to be interested in this particular project. However, those clubs that did operate had a successful year. A limited Advanced Registry scoring service provided members with valuable information on their animals.

Sheep Clubs

This is another minor project with only two clubs, Abee and Foothills, in operation. It is not expected that this will ever develop into a strong project in this province.

Poultry Clubs

This project, while small, is proving very worthwhile where it is carried on. Much of the work, particularly at Achievement Day time, is necessarily handled by the staff of the Poultry Branch.

Potato Clubs

A gradual increase in interest in this project over the past three years is encouraging. This year an exhibit from one of these clubs placed first at the Royal Winter Fair.

Crop Clubs

The problem of marketing grain was reflected strongly in the membership of the grain clubs this year. However, the project continued to be a popular one and with favourable growing conditions, members were able to produce a large number of excellent plots. This was reflected in the Provincial Plot Competition which was more keenly contested than ever before. Winners in this Competition were:

Wheat—Andrew Schlachter, Box 28, Whitla
Barley—Allan Cole, Cilve
Oats—Dick Mutton, Pembridge

At the Achievement Days held in the fall, exhibits of grain were generally very good. For the first time, samples were grouped according to quality rather than placed numerically. This system gave members a better indication of the calibre of samples they had for exhibit. Groupings used were superior, choice, standard and merit. Large attendance at many Achievement Days indicated enthusiastic public support of the program.

The 13th Annual Provincial Junior Seed Fair was held in conjunction with the Calgary Chamber of Commerce Short Course and Seed Fair. A total of 274 samples of grain were exhibited in the 10 classes. Attendance was good during the two days of the Fair.

HOME ECONOMICS PROGRAM

The Girls' Club program is continuing to provide instruction in homemaking to girls in rural areas. This year there were 167 clubs carrying projects with a membership of 1,899.

The interest in club work is continuing to increase and the standard of general club and project work is improving greatly.

Leadership training has been stressed this year and has been of great value to the leaders in providing excellent leadership to the clubs.

Twelve projects, three in Clothing, three in Foods, three in Gardening, two in Home Decoration and one in Etiquette are available. Clothing projects still continue to be the most popular with 86 clubs enrolled with a membership of 1,106. This year there were 16 clubs taking the food projects with a membership of 170. The Garden projects are sponsored jointly by the Alberta Wheat Pool and the Department of Agriculture. 65 clubs with 623 membership were enrolled in the garden projects.

Besides the instruction available from leaders and project books 588 talks and lectures in Home Economics and club work were given to the club members by the District Home Economists and summer staff. Branch staff members also attended or assisted with 190 achievement days with 14,454 people attending.

The assistance given by Miss Lewis and Miss Moseson in project work was greatly appreciated.

Awards

All garden plots were judged by district or headquarters staff with assistance from the Alberta Wheat Pool Fieldmen or the District Agriculturist. The Alberta Wheat Pool awarded 64 prizes for best garden plot in each club and presented 15 clubs with awards for obtaining the highest standing in each Home Economist's district. The latter award was in the form of a book to be added to their club library. The book "Speeches For All Occasions" by C. W. Wright was presented this year.

The T. Eaton Company again presented pinking shears or timers to a winner in each food, clothing and home decoration club. The selection for the award was based on the club member's record. 86 awards were made in clothing clubs and 16 in foods.

The Alberta Wheat Pool Scholarship of $200 each to students in first, second and third year Home Economics at the University of Alberta were awarded to:

Valeria Liss, Sandgudo—Third Year
Kathleen Carney, Ghost Pine Creek—Second Year
Ann Mitchell, Czar—First Year

Only members of garden clubs are eligible to apply for these scholarships.

Other Activities

Besides the Provincial and Regional leaders' courses held, two one-day regional sewing courses based on project work for clothing clubs were held. These proved to be very successful. It is hoped next year more such courses in food and clothing clubs will be conducted.

Two members were selected to attend the Alberta Locker Association Convention. However, due to weather conditions only one member, Rosalyn Bills of Crossfield, was able to attend. She spoke on freezing work done in food and garden clubs.

This year Alberta was asked to stage the food demonstration for the program at the annual banquet during National Club Week. Myrna Roose of Ohaton and Sybil Groom of Mecca Glen were chosen to do this.

Many club events were held this year. 24 field days or rallies, 76 tours, 12 short courses were scheduled. A number of 4-H members attended 4 fairs and 2 lake camps where instruction was given by Branch staff and the District Home Economists. At all these events instruction was given in project work. Total attendance was 5,587.

Miss Dorothy Olsen Junior Supervisor ably assisted with Girls' Club work until her transfer from the Branch.

In addition to the above mentioned assignments the following work was done by the Girls' Club supervisor and her assistant:

Meetings attended	38
Short Courses, Field Days and Rallies	17
Conventions and Fairs	6
Talks Given	202
Camps	1
Achievement Days attended	67
Radio Talks	3
Letters Written	2,053
Provincial Club Weeks and Judging Competitions	5

Assistance was also given at Farm Young People's Week.

The aim of Girls' Club Work is to train girls to be better citizens, encourage them to use up-to-date methods in homemaking and to interest them in improving their standards of work. It would appear that these aims are being met.

Report of the Radio and Information Branch

E. B. SWINDLEHURST, Supervisor

E. V. Hamula, Senior Commentator-Writer
C. Scott Flewitt, Commentator-Writer
Miss R. C. Wohlgeschaffen, Secretary-Writer

GENERAL

The aim of the Radio and Information Branch is to provide seasonal and up-to-the-minute information on a variety of topics of use and interest to Alberta farm families. Both the spoken and the written word are employed since the two in combination are often more effective than either used singly.

The advantage of radio is the speed and promptness with which information can be relayed and the prospective audience at its disposal. Attractiveness of presentation and confidence in material presented are the requirements. The favourable reception of the Department's radio program "Call of the Land" as indicated in the survey reported below suggests that these requirements are being met.

"Farm Notes" and "Science and the Land" provide a medium for written information. Dealing with topics of interest from members of the Department and with progress and findings from research institutions in Alberta they provide a steady flow of information to press, radio, and agricultural workers in many fields.

Very pleasant associations have again been enjoyed with staffs of the Alberta and Canada Departments of Agriculture, the University of Alberta, farm people throughout the province and many others. To all who have contributed to the success of our efforts we extend our sincere appreciation.

During the year, Miss Ruth Wohlgeschaffen was appointed to the position of Secretary-Writer following transfer in June of Miss J. L. Ross.

Radio Production

"Call of the Land" a Monday to Friday noonday farm radio feature was aired 261 times during the year. The ten minute program, now in its 4th year of production, is carried over seven radio stations in Alberta. The stations broadcasting "Call of the Land" are as follows:

CFGP, Grande Prairie	12:05 p.m.	CKRD, Red Deer	12:45 p.m.
CFCW, Camrose	12:05 p.m.	CFCN, Calgary	1:00 p.m.
CFRN, Edmonton	12:15 p.m.	CHAT, Medicine Hat	1:05 p.m.
CKUA, Edmonton	12:30 p.m.		

Effort is continually being made to make the program available to as many rural Alberta homes as possible. To achieve this objective the best noon hour time available is used on a province-wide group of radio stations. This year a publicity campaign was carried out by this branch during which publicity posters, blotters and bumper stickers were distributed to farm equipment dealers, farm produce buying plants and frozen food locker plants in the province. This campaign has helped greatly in stimulating further awareness of this program in rural areas.

The program is produced and distributed in its entirety in the studios of the Radio and Information Branch in the Terrace Building. This makes the program available at the lowest possible cost.

Listener Appeal

According to a rural radio listener survey on farm broadcasts conducted in December through District Agriculturists' offices in the province, "Call of the Land" is now among top ranking farm shows in the province.

The survey indicated that approximately 65% of the farm homes in Alberta listen to noonday farm broadcasts daily while another 20% listen regularly but not daily. Strong interest in farm broadcasts was indicated by the fact that nearly one fifth of these listen to two or more broadcasts each day. The program rating established for "Call of the Land" is 18.1%. From these figures it is estimated that the broadcast is listened to in approximately 15,000 farm homes daily. For an information type broadcast this is considered excellent. According to a national authority on radio surveys it is fairly reasonable to assume from this figure that up to 37,000 farm homes could be listening to the broadcast at any one time. Greatest response was obtained in the Peace River, Red Deer, Camrose and Medicine Hat areas. In the Edmonton and Calgary areas where long established farm programs are strong competitors, it holds approximately one third to one half of the listenership.

Audiences in North Eastern Alberta and Lethbridge areas were low due to the fact that the radio stations carrying the broadcast are difficult to hear at these points.

The general conclusion taken from the survey was that "Call of the Land" has built up a very good audience for an informative type broadcast. Many letters and calls are received continually by officials interviewed requesting information in addition to what was carried on the air.

Programming

In gathering material for broadcast, constant effort was made to provide an interesting variety of material pertaining to farming in Alberta. In order to provide variety, travel throughout the province and a great deal of special programming was necessary. In addition matters of national and international scope were aired whenever they contained local appeal.

The following tables show type of programming and nature of material.

Type of Programming	No. of Programs
The personality interview	168
News items and announcements	43
On-the-spot recording	33
Commentaries (by commentators or guests)	15
Musical (on special days—e.g. Christmas)	2
	261

Nature of Material	No. of Programs
Field Crops (including weeds, pest control, horticulture etc.)	53
Live Stock and Veterinary Science	38
Farm Mechanics	14
Special programs for farm homemakers	14
4-H	13
Dairy	9
Schools of Agriculture	7
Poultry	6
Beekeeping, Entomology and Fur Farming	5
Miscellaneous (topics other than those above and programs carrying several topics)	102
	261

Interviews

Source of personality appearances on the programs during the years were as follows. Often two or more persons were heard on one program.

	No. of Appearances
Alberta Department of Agriculture	215
Other Alberta Government Departments	13
Canada Department of Agriculture	17
University of Alberta	16
Farm people (including 4-H members)	82
Others	61
	404

To provide variety many special programs and series of programs were broadcast during the year. Among these were seven daily features originating from the Royal Winter Fair. In addition daily night press letter reports of Alberta winnings at the "Royal" were supplied to four Alberta Daily newspapers, five radio and three television stations. These reports and broadcasts were prepared by E. V. Hamula, Senior Commentator-Writer of this branch. The broadcasts contained on-the-spot interviews and reports on the "Royal", which were broadcast the following day. This was the second successive year in which reports from the Royal Winter Fair were made by this branch. Many complimentary remarks were received on the quality and type of coverage.

A new type of service was instituted for the first time this year when, on three occasions tapes containing messages from Alberta Department of Agriculture personalities were distributed to all other farm broadcasters in Alberta.

Many special programs were carried during the year. Nine on farm accounting and farm management were broadcast weekly during February and March and farm safety week was recognized with a series of five programs devoted entirely to various aspects of farm safety. Many others carrying safety reminders were aired continually throughout the year. Special programs were prepared in co-operation with other government departments; five with the Department of Lands and Forest Fire Prevention, four with the Game Branch and two with Public Welfare on the Metis Colonies.

Other specials were broadcast in connection with the Calgary Stampede; The Edmonton, Red Deer, Camrose, Westlock, Grande Prairie Exhibitions; The Alberta Dairymen's Association; Western Stock Growers; Farmers' Union of Alberta; Alberta Federation of Agriculture; Western Canadian Hatcherymen's Federation, and Veterans Land Administration Conventions.

Also during the year six programs featuring visitors from the United States, Argentina and Eastern Canada were broadcast.

As of December 31, 1956 this branch has produced 979 continuous daily farm programs.

Science and the Land

In 1956, 71 issues of "Science and the Land" were released. This publication deals with progress and results of agricultural research as it affects the farmers of Alberta. The information is gathered at research centres throughout the province and made available through co-operation of the various government agencies engaged in this field.

Visited during the year were the Science Service Laboratories at Lethbridge and Edmonton, the Experimental Farms at Lethbridge, Lacombe and Beaverlodge, the Irrigation Station at Vauxhall, and the Departments of Entomology, Soils, Plant Science and Animal Science at the University of Alberta. Excellent relations were experienced and the co-operation of all approached was appreciated.

A wide range of topics was covered under the general headings of cereals, forage crops, weeds, horticulture, soils and fertility, plant diseases, insect pests, honey bees, and live stock. An attempt is made to present the information clearly while holding to a minimum the reading effort required.

Where time and facilities permitted, the Research Information Editor made a point of attending conferences and gatherings of scientists in the province, at all of which he was welcomed. Among these meetings in 1956 were the Sawfly Conference and the Conference of Western Canadian and United States Agronomists at Lethbridge in August, the Phytopathologists meeting at the University of Alberta in September, and the Horticultural, Fertilizer, Forage Crops and Cereal Zonation Committee meetings in Edmonton in December. Useful information was obtained at these meetings, some of which was used directly for publication while the remainder provided basic material for work proposed or in progress.

Farm Notes

The weekly publication "Farm Notes" provides the farmer with a variety of informative articles on agriculture and home economics. These notes are edited by the Secretary-Writer and the material for them is gathered and prepared in co-operation with the various specialists throughout the department. Through the medium of press and radio these articles are given wide coverage. The subjects dealt with include Field Crops; Home Economics: Live Stock and Veterinary Science; Dairying; Farm Mechanics; Poultry; Beekeeping; Fur Farming and others.

During 1956, 52 issues were released featuring a total of 288 items. Extra services during the past year included special releases for the country press covering the Royal Winter Fair.

Farm Notes are distributed not only to press, radio and T.V. but also to federal, foreign, and provincial governments, libraries, commercial companies, universities, various individuals associated with agriculture and our own field staff and headquarters. At the end of the year the mailing list totalled 715.

Report of the Conservation and Utilization Committee

G. R. STERLING, Chairman

"The Land and Forest Utilization" Act was passed at the August 1955 session of the Legislature and the Conservation and Utilization Committee was appointed January 10th, 1956 by the Lieutenant-Governor in Council. Following are the members of the Committee:

Gordon R. Sterling, Chairman, Department of Agriculture
A. M. Wilson, Field Crops Commissioner, Department of Agriculture
F. L. Grindley, Director of Water Resources, Department of Agriculture
V. A. Wood, Director of Lands, Department of Lands and Forests
E. S. Huestis, Director of Forestry, Department of Lands and Forests
A. W. Morrison, Deputy Minister, Department of Municipal Affairs
J. G. Macgregor, Chairman, Power Commission, Department of Industries and Labour
Dr. J. D. Newton, Professor of Soils, University of Alberta and Chairman Soil Survey Committee, Alberta Research Council

Dr. J. D. Newton left for Indonesia to work with F.A.O. about mid-summer and was replaced by Dr. C. F. Bentley. Mr. E. R. McCrimmon was appointed as temporary Secretary to the Committee until such time as the Secretary duties require a full-time employee.

The first meeting of the Committee, held April 11th, was attended by Hon. L. C. Halmrast, Minister of Agriculture and R. M. Putnam, Deputy Minister. Two other meetings were held during 1956.

The Chairman of the Committee did not devote full time to this work since he also carried the position of Supervisor of Soil Conservation and Weed Control in the Field Crops Branch.

Shortly after the Committee was formed, the Deputy Minister of Agriculture, Mr. R. M. Putnam, wrote all Municipal Districts and Irrigation Districts informing them of the functions of the Committee. Several requests for assistance were received and were handled by various government agencies. The following investigations were undertaken and actions carried out during 1956.

(1) Athabasca District

The Municipal District of Athabasca reported severe flooding conditions and requested that drainage be undertaken. The Chairman investigated the area and returned later accompanied by a Water Resources Engineer. To date no drainage projects have been undertaken.

(2) Mountain View Irrigation District

The Chairman studied flood damage problems being suffered by this Irrigation District. Some suggestions were given but since this is a small Irrigation District with very limited funds, it is hard for them to operate effectively and to correct the flooding conditions.

(3) Municipal District of Wetaskiwin and County of Ponoka

The Municipal District of Wetaskiwin and the County of Ponoka asked for a study of the farming situation West of the fifth

Meridian in each district. Observation trips were made through each district.

(4) **Municipal District of Eagle**

This district requested a study of the following farming area: Sections 5 to 8 inclusive and 17 to 20 inclusive 50-10-W4th; and Sections 1 and 2, 11 to 14 inclusive, and 23 and 24 55-11-W4th. After studying the area, the Committee has recommended that the Government establish a community pasture over the entire block of land. At the close of the year, this recommendation was awaiting approval of the Executive Council.

(5) **Municipal District of Westlock**

This Municipal District requested a study of the farming area North-East of Clyde. This is a sandy area with outwashes of gravel. The Municipal District owns several quarters which have been sold several times over the past years for taxes. This area was studied by a sub-committee whose report was being awaited at the close of the year.

(6) **Municipal District of Cardston**

This District requested assistance regarding the draining of Strawberry Lake located near Glenwood. Inspection was made of the area but it is questionable whether drainage is the answer to this problem.

(7) **Municipal District of Lacombe—Bentley Area**

The Bentley Farm and Home Improvement Association asked that soil conservation work be started in part of the drainage basin of the Blindman River, namely that area south and west of Bentley. Contour farming and contour retaining terraces were recommended for the drainage shed studied. Three farmers affected were taken to observe contour terrace work in the Southern part of the province. It is hoped that action will be taken by these farmers in 1957.

The Deputy Minister of Agriculture requested the following studies:

(1) **Hay Lakes Drainage Project**

This Project when completed, will drain water from Hay Lakes into Bittern Lake. The Chairman was requested to study the productiveness of the accrued areas surrounding Bittern Lake which might be flooded if this Lake is raised. A report on this was submitted to Water Resources Branch.

(2) **Irrigation Along Berry Creek**

A study was started along Berry Creek (South of Hanna) to determine whether small irrigation projects should be established. Considerable information about soils in the area was obtained and more information is being obtained from soil survey and the Alberta Research Council before a final report can be written.

Agricultural Soil and Feed Testing Laboratory

The Chairman of the Committee was a member of the Supervising Committee of the Agricultural Soil and Feed Testing Laboratory. Four meetings were attended in connection with this work.

A total of 1,543 samples were analyzed during the year. The following tables give the kind and numbers of samples handled.

SAMPLES SUBMITTED TO ALBERTA SOIL AND FEED TESTING LABORATORY JANUARY 1-DECEMBER 31/56

	Feeds	Farm Soils	Greenhouse Soils	Total For Quarter
January 1-March 31/56	85	69	127	281
April 1-June 30/56	25	287	130	442
July 1-September 30/56	6	146	116	268
October 1-December 31/56	174	298	80	552
Total for Year	290	800	453	1,543

BREAK DOWN OF FEED SAMPLES SUBMITTED

	Grains	Hays	Silages	Flax	Miscellaneous	Total For Quarter
January 1-March 31/56	21	41	17	0	6	85
April 1-June 30/56	6	9	2	0	8	25
July 1-September 30/56	0	5	0	1	0	6
October 1-December 31/56	33	31	8	98	4	174
Total for Year	60	86	27	99	18	290

A report written by University Faculty of Agriculture staff members giving suggested recommendations to the farmer accompanied each analytical report.

Report of the Board of Trustees

of the Surplus Wheat Board received by the Government of the Province of Alberta from 1916-1919 Canadian Wheat Board

HONOURABLE L. C. HALMRAST, Chairman
R. M. Putnam, Deputy Minister of Agriculture
H. W. Gaebel, Secretary, Department of Agriculture
Richard Ballhorn, Farmer, Wetaskiwin, Alberta
Arthur Pierson, Vice-President and Treasurer of the Independent Grain Company, Calgary

Receipts for the year ending December 31, 1956 totalled $3,618.24 all of which was in payment of interest on investments.

Payments for the year ending December 31, 1956 amounted to $5,501.44 and were made up as follows:

Scholarships awarded	$1,625.00
Board expenses	10.00
Purchase of Province of Newfoundland debentures	3,866.44

A statement of receipts and expenditures, along with a statement of assets and liabilities is attached hereto.

Investments

Investments as shown on the attached balance sheet consist of:

(1)	Government of Canada	3¾%	debentures	$ 2,500.00
(2)	Province of British Columbia	3 %	debentures	45,000.00
(3)	Province of New Brunswick	3½%	debentures	45,000.00
(4)	Province of Newfoundland	3¾%	debentures	4,000.00
(5)	City of Calgary	3½%	debentures	4,000.00
				$100,500.00

Meetings

A meeting of the members of the Board was held on June 8, 1956, and scholarships totalling $2,700.00 were made available for the coming year.

General

The Board has continued the policy of conserving the principal remaining in the Trust Fund, making all expenditures from the income received from investments.

Scholarships totalling 369 in number and valued at $29,916.36 have been awarded and paid since the Board instituted the policy of providing scholarships.

List of Scholarship Winners Named During 1956

Junior Club Winners

Steve Hadnogy, Bow Island
LeRoy Pelletier, Pincher Creek
Ralph Tiede, Strathmore
Norman Neufeld, Granum
Johnny Kampjes, Gibbons
David Powley, Inland
Allan Sorenson, Wetaskiwin
Vernon H. Michael, Clive
Arnold Malone, Rosalind
Henry Wildeboer, Rocky Mt. House
Victor Sawchuk, Mundare
Joseph Corbier, Mallaig
Mary Jorgenson, Carnwood
Kathleen Lane, Byemoor
Marlene Guischet, Ardmore
Jean Rush, Peers
Raymond Anderson, Grimshaw
Linus Becher, Manning
Joyce Lorencz, Manning
Marlene Stenvig, Eckville
Beverley Tronnes, Crossfield

University of Alberta Young People's Week Winners

Richard S. Smith, Manville
Barbara Thomas, Indus

Women's Institute Girls' Club Winner

Alma Swanson, Carstairs

To University of Alberta from Agricultural Schools Winners

Marilyn Cooper, Elnora
Anne Lichtner, North Star
Victor Valli, Brooks

Winners of Open Scholarship for any Young Person to attend a School of Agriculture

D. R. Stanger, Munson
Guenter Riedel, Turin
John Lupijczuk, Lyalta
Ronald E. Harris, Beverley
Raymond Marchak, Waugh
Shirley McDonald, Mannville
Liliane Lanctot, Girouxville
Alfred E. Burgess, Beaverlodge

TREASURY DEPARTMENT

WHEAT BOARD MONIES TRUST FUND

Balance Sheet as at December 31, 1956

ASSETS

	Par Value	Bank Value
Investments:		
Government of Canada 3¾% due January 15, 1978	$ 2,500.00	$ 2,522,00
Province of British Coloumbia 3% due December 15, 1969	45,000.00	44,700.02
Province of New Brunswick 3½% due April 1, 1967	45,000.00	44,861.06
Province of Newfoundland 3¾% due June 1, 1976	4,000.00	3,859.68
City of Calgary 3½% due July 1, 1968	4,000.00	3,993.64
		$ 99,936.40
Cash in Bank		3,618.24
Accrued Interest		588.31
		$104,142.95

LIABILITIES

Trust Fund December 31, 1955	$102,395.84
Add: Surplus for year 1956	1,747.11
	$104,142.95

TREASURY DEPARTMENT

WHEAT BOARD MONIES TRUST FUND

Statement of Receipts and Payments for the year ended December 31, 1956

Bank Balance December 31, 1955		$ 5,779.65
Interest on: $ 2,500 Government of Canada debentures	$ 93.74	
45,000 Prov. of British Columbia debentures	1,350.00	
45,000 Prov. of New Brunswick debentures	1,575.00	
4,000 Prov. of Newfoundland	150.00	
4,000 City of Calgary	140.00	
Bank Balances	31.29	
		3,340.03
		$ 9,119.68
Deduct Payments:		
University of Alberta Scholarships	$ 200.00	
Olds School and Farm Scholarships	600.00	
Vermilion School and Farm Scholarships	525.00	
Fairview School and Farm Scholarships	300.00	
Richard Ballhorn—meeting expense	10.00	
Investment $4,000 Prov. of Newfoundland 3¾% debentures due June 1, 1976 @ $96.25	3,850.00	
Accrued interest purchased	16.44	
		5,501.44
Balance December 31, 1956		$ 3,618.24

TREASURY DEPARTMENT

WHEAT BOARD MONIES TRUST FUND

Accrued Interest as at December 31, 1956

Government of Canada Debentures:			
$2,500.00, 3¾%, January 15, 1978, 5½ months			$ 42.97
Province of British Columbia Debentures:			
$45,000.00, 3%, December 15, 1968, ½ month			56.25
Province of New Brunswick Debentures:			
$45,000.00, 3½%, April 1, 1967, 3 months			393.75
Province of Newfoundland Debentures:			
$4,000.00, 3¾%, June 1, 1976, 1 month			12.50
City of Calgary Debentures:			
$4,000.00, 3½%, July 1, 1968, 6 months			70.00
Bank Interest:			
November 1956	$4,218.25	$ 4.22	....
December 1956	3,618.24	3.84	8.06
			$ 583.53
Add: Accum. of Discount:			
Accrued on Province of British Columbia debentures		$ .96	
Accrued on Province of New Brunswick debentures		3.31	
Accrued on Province of Newfoundland debentures		.80	
Accrued on City of Calgary debentures		.26	
		$ 5.33	
Less: Amor. of Premium:			
Accrued on Government of Canada debentures		.55	$ 4.78
Net Earnings Accrued to December 31, 1956			$ 588.31